

U. S. Army Corps of Engineers Kansas City District

Federal Creosote Superfund Site Rustic Mall Final Remedial Action Report

June 2008



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REMEDIAL ACTION REPORT

**OU3 - RUSTIC MALL REMEDIAL ACTION
FEDERAL CREOSOTE SUPERFUND SITE
MANVILLE, NEW JERSEY**

CONTRACT NO.: DACW41-01-D-0001

PREPARED FOR

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June 2008

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OU3 - RUSTIC MALL
RECORD OF PREPARATION, REVIEW, AND APPROVAL
FEDERAL CREOSOTE SUPERFUND SITE
MANVILLE, NEW JERSEY
RUSTIC MALL REMEDIAL ACTION**

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This report has been prepared in accordance with EPA OSWER 9320.2-09A and will be used as a basis for development of the site Project Closure Report.

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Section 1

Introduction

The Federal Creosote Superfund site, which includes a 137-property residential community known as the Claremont Development and a commercial area known as the Rustic Mall, is located in the Borough of Manville, Somerset County, New Jersey. The site is over 50 acres and is bordered to the north by the Norfolk Southern Railroad, to the southeast by the CSX Railroad, to the south by East Camplain Road, and to the west by South Main Street.

U.S. Army Corps of Engineers (USACE) Kansas City provided technical support to the U.S. Environmental Protection Agency Region 2 (EPA) during the Rustic Mall remediation at the Federal Creosote Superfund site. In support of these efforts, the USACE contracted with Severson Environmental Services, Inc. (SES) to perform the remedial construction in accordance with the project design documents. The work was performed under Pre-Placed Remedial Action Contract (PRAC) DACW41-01-D-0001.

The objective of the project was to remediate the portion of Rustic Mall that contain soil contaminated to levels greater than the analytical cleanup goals (ACGs) and that may pose risks to human health and may continue to be a source of groundwater contamination.

USACE retained the services of CDM Federal Programs Corporation (CDM) to perform the remedial design and to prepare the remedial action report. The design was performance-based. Minimum requirements were presented to allow the contractor to develop the methods and procedures for accomplishing the design objectives. All work was performed in accordance with site-specific project plans prepared by SES, based on the remedial design documents. Each plan was submitted to USACE for approval prior to commencement of field activities.

A pre-construction conference meeting was conducted at the site office on August 3, 2005. Remedial action construction started in June 2005 and was completed in February 2008. On March 19, 2008 upon correction of all construction deficiencies and submittal of outstanding project document, representatives of EPA, USACE and SES attended a final inspection.

1.1 Remedial Action Report Objectives

The objectives of this report are summarized below:

- Provide a summary of pertinent background information including site description, history, and discussion of Operable Units (OUs)
- Present a detailed chronology of events for the remedial action effort
- Present an extended summary of the project performance and construction quality control standards instituted by SES to ensure the successful completion of the remedial action

- Present summary of pre-remedial and remedial action activities completed over the course of the project
- Present a summary of unusual events encountered during the completion of site activities
- Present a summary of lessons learned
- Present a summary of the project final inspection
- Present a summary of SES's operation and maintenance obligations relative to site restoration
- Present a summary of the project costs

1.2 Site Description

The Federal Creosote site is located on a topographic high within the Raritan River watershed system. The Raritan River passes approximately 2,000 feet north and east of the site, and the Millstone River, a tributary of the Raritan, is located approximately 1,200 feet to the southeast. The confluence of the two rivers lies approximately one mile east of the site.

1.3 Site History

The Federal Creosote site was the site of the former American/Federal Creosote Wood Treatment facility, which operated from approximately the 1910s to 1957. The plant operated as a wood (e.g., railroad ties) treatment facility that used creosote as a preservative. Historical aerial photographs indicate that the main wood treatment facility was located in the southwest corner of the site, where the Rustic Mall is currently located. The wood treatment facility included several large buildings, a pressure cylinder, and five vertical storage tanks.

Two lagoons and associated canals that serviced the facility were located in the north central and southeast sections of the site. The lagoons and canals are believed to have contained liquid waste generated from the creosote wood preservation operation. The lagoon in the north central section of the site and its associated canal are referred to as Lagoon A and Canal A, respectively. The lagoon and canal in the south portion of the site are referred to as Lagoon B and Canal B, respectively. Additionally, several impoundments, standing liquid areas, and stained areas were identified northeast of the main treatment facility. Figure 1-1 shows the overall site layout.

According to historical aerial photographs, the central portion of the site was mainly an open lumber storage yard, containing stacks of wood material such as untreated lumber, poles, beams, and railroad ties. Darker-toned, apparently treated wood was located in an area referred to as the drip area, which occupied the northern portion of the open lumber storage yard, and along the northern rail spurs and loading platform.

Beginning in 1962, the 137 residential unit Claremont Development was constructed in the areas of this site that were the lagoons, canals, drip areas and lumber storage areas. The lagoons and the canals were reportedly filled in, without removing the waste from the lagoons, during the residential community development. The southwestern portion of the site was developed into the Rustic Mall.

In April 1996, the New Jersey Department of Environmental Protection (NJDEP) responded to an incident involving the discharge of an unknown liquid from a sump located at one of the Claremont Development residences on Valerie Drive. A thick, tarry substance was observed flowing from the sump to the street. In January 1997, the Borough of Manville responded to a complaint that a sinkhole had developed around a sewer pipe in the Claremont Development along East Camplain Road. Excavation of the soil around the pipe identified a black tar-like material in the soil. Subsequent investigations of these areas revealed elevated levels of contaminants consistent with creosote.

In October 1997, EPA's Environmental Response Team (ERT) initiated a site investigation limited to properties believed to contain creosote contamination based on analysis of historic aerial photographs as well as input from residents. This investigation included the collection of surface and subsurface soil samples at select locations within the residential development. The result of this investigation indicated that the contamination was extensive, uncontrolled, and had impacted sediment, soil and groundwater in the area.

From February through April 1998, EPA collected over 1,350 surface soil samples on 133 properties in and adjacent to the Claremont Development in order to determine if an immediate health risk existed. EPA identified some properties with surface soil in yards containing elevated levels of creosote posing a long-term health risk. As a result, EPA applied topsoil, mulch, seed and sod to 11 of the properties that contained elevated levels of creosote in surface soil, to limit the potential for exposure.

In November 1998, EPA initiated a remedial investigation and feasibility study (RI/FS) to more fully characterize the nature and extent of contamination at the site. Subsurface soil sampling started in December 1998 and was completed in March 1999.

The site was proposed for the National Priorities List (NPL) on July 27, 1998, and was formally placed on the NPL on January 19, 1999.

The data from the 1997/1998 investigation conducted by EPA indicated that the canal and lagoon areas are the major sources of soil and groundwater contamination in the Claremont Development. EPA then prepared an Engineering Evaluation/Cost Analysis (EE/CA) and a focused EE/CA, to evaluate remediation options for the lagoon and canal source materials. The focused EE/CA concentrated on the preferred remedy of demolition of structures and excavation of the lagoon and canal material, with off-site treatment and disposal.

On September 28, 1999, EPA signed a Record of Decision (ROD) for the remediation of the lagoons and canals. The ROD designated the remediation of the lagoons and canals as OU1. EPA addressed the remaining site areas under separate Operable Units, according to the following:

OU2 - Residual Levels of Creosote Contamination in the Claremont Development

OU3 - Rustic Mall Contaminated Soil, Groundwater, Surface Water, and Sediment

1.4 USACE and EPA Project Management

USACE Kansas City District was responsible for the design and construction. USACE New York District (USACE NY) was responsible for construction oversight. USACE NY provided full-time, on-site technical representative throughout the duration of the project. USACE representatives were responsible for assuring the project was executed in accordance with design documents and site-specific plans. USACE on-site representatives maintained a direct line of communication with SES's project management team and EPA Region 2 Remedial Project Manager (RPM). Weekly project meetings were held at the site throughout the duration of the field activities. Health and safety, work progress, field observations, problems and conflicts, schedule, submittals, quality control, changes, cost tracking, and community relations were discussed during these meetings.

Key project personnel included:

Rich Puvogel	EPA Region 2 - Remedial Project Manager
Todd Daniels	USACE - Kansas City District Project Manager
Gene Urbanik	USACE - New York District - New Jersey Area Engineer
Neal Kolb	USACE - New York District - Resident Engineer

Section 2

Operable Unit Background

The OU3 ROD reiterates the action levels for soil contaminated with PAHs above the cleanup goals determined for the site in the OU2 ROD. The OU3 ROD specified excavation and off-site disposal of soil containing PAHs in excess of the ACGs from the Rustic Mall. The OU3 ROD also includes institutional controls for soil contamination exceeding depths of approximately 14 feet as part of the remedy for Rustic Mall soil. A summary of background information from the historic investigations is presented in this section.

2.1 Geology

2.1.1 Regional Geology

The site is underlain by approximately 25 to 35 feet of unconsolidated sediments of glaciofluvial origin, which in turn are underlain by Late Triassic siltstone and shale.

Stanford (1992) has mapped unconsolidated sediments in the vicinity of the site above altitude 50 feet relative to mean sea level (msl) as Upper Raritan Terrace Deposits. These Middle Pleistocene sands and gravels, which form a terrace about 20 to 30 feet above the present Raritan River alluvial plain, were associated with 60 to 100 feet of weathering and down-cutting of bedrock in both main and tributary valleys during the Illinoian glacial event. Regionally, these deposits consist of sand and pebble gravel, with minor silt, clay, and cobbles. Total thickness in this unit of up to 50 feet has been reported (Stanford 1992).

The subsequent Millstone Terrace Deposits (altitude 40 to 50 feet above msl) surround the Upper Raritan Terrace. Stanford correlates the Millstone Terrace with the Middle to Late Pleistocene Sangamon glacial event. Deposits with lithology similar to the Raritan Terrace have been observed up to 30 feet thick, forming a terrace about 10 to 15 feet above the present floodplain of the Millstone River. Recent alluvial deposits, consisting of up to 20 feet of sand, silt, and clay with minor organic material, surround deposits of the Millstone Terrace.

Bedrock beneath the site is the Passaic Formation, one of the sedimentary formations of the Newark Basin of New Jersey, which contains a thick sequence of Late Triassic and Early Jurassic non-marine sedimentary and igneous rocks. The predominant lithology is reddish-brown siltstone, mudstone, shale, and occasional sandstone of fluvial origin although grey to black lacustrine sequences of mappable scale have been observed in the Passaic Formation throughout the central Newark Basin. Faulting is relatively common, particularly in the western portions of the Passaic Formation outcrop. Rocks of the Passaic Formation typically contain three prominent fracture sets, one parallel to bedding planes and two sets of high angle fractures. Of the high angle fractures, a primary set is generally sub-parallel to strike, and a secondary set is perpendicular to strike.

2.1.2 Site Geology

The deposits underlying the site were described as silt, which was then underlain by a sandy gravel that extended to bedrock (Weston 1998).

The lithologies of the deposits have been characterized in detail during the Focused Feasibility Study (FFS). The lithologic descriptions suggested the following sequence (from ground surface to bedrock) of deposits to be typical at the site:

- Fill
- Sand and Gravel
- Silt and Clay
- Sand and Gravel (with some silt and clay layers and seams)
- Shales (bedrock)

The fill varies in composition across the site and predominantly contains a poorly sorted mixture of gravel, sand, silt, and clay that varies in color from yellowish brown to brown to reddish brown. The unit also contains lesser amounts of coal/ashes, asphalt, concrete, and brick fragments. The fill unit fluctuates in thickness across the site from a minimum of approximately two feet to a maximum of approximately five feet, but typically the thickness does not exceed four feet. Topsoil, which is part of this unit, is commonly found to be six to eight inches thick. The fill unit appears to be continuous underneath the Claremont Development.

Underlying the fill unit is a sand and gravel deposit. The deposit may generally be described as a fine to coarse sand with little to some fine to medium gravel and trace amounts of silt. The color is typically brown or reddish brown. The typical thickness reported for the unit range from three to six feet, and rarely does the thickness exceed seven feet. This sand and gravel unit appears to be continuous within the boundaries of the Claremont Development. Immediately south and southeast of the development in the Lost Valley residential area, this unit is not present, due to a decrease in topographic elevation.

A deposit of silt and clay underlies the sand and gravel unit. The unit is best described as a dark yellowish brown silt layer that is two feet thick with an underlying reddish-brown clay layer that is one foot thick. In many instances the silt layer is mottled or gleyed (additionally, the lower reaches of the overlying sand and gravel deposit are also sometimes gray). Within the boundaries of the Claremont Development, the thickness of the unit fluctuates from a minimum of four inches to a maximum of nine and one half feet. Additionally, both grain sizes (silt overlying clay) were not encountered at every boring location, however the deposit of silt and clay is believed to be relatively continuous beneath the development.

A second sand and gravel unit lies beneath the fine-grained unit. The unit is generally described as a reddish-brown fine to coarse sand with a trace to some fine to medium gravel, and trace amounts of silt; occasional seams and layers of well-sorted sand are encountered. Within the unit a discontinuous layer of silt and clay can be traced. Referenced to depth, the fine-grained layer occurs near the mid-section of the sand and

gravel unit. Additionally, at the base of the unit a discontinuous layer (consisting of grain sizes from clay to cobbles) that is believed to be till has been identified. The thickness of the sand and gravel deposit (including the fine-grained layer and the basal till) fluctuates across the site from approximately 15 feet to 25 feet, with the typical thickness in the range of 19 to 23 feet. The basal till (which has been identified based on grain size, grain angularity and penetration rate increase) is approximately one foot thick and is likely not continuous.

The bedrock color is typically reddish brown and shows lithologies typical of the Passaic Formation, with alternating red-brown siltstone, sandstone and shale. The rock was described as highly to moderately weathered, friable and soft. The bedrock surface varies in altitude beneath the development from approximately 12 to 17 feet above msl, with most of the altitudes near 15 feet below ground surface (bgs). No site-wide slope trends of the bedrock surface are apparent.

2.2 Hydrogeology

2.2.1 Regional Hydrogeology

The Passaic Formation has been extensively developed for groundwater supplies. Wells capable of yielding tens to hundreds of gallons per minute have been completed throughout much of the formation, generally at depths of 200 to 500 feet (Vecchioli, 1965). The rocks have little primary permeability. Virtually all groundwater movement occurs through the intersecting fracture sets. Rocks of the Passaic Formation typically contain three prominent fracture sets, one parallel to bedding planes and two sets of high angle fractures. Of the high angle fractures, a primary set is generally sub-parallel to strike, and a secondary set is perpendicular to strike. It has long been recognized that the Passaic (Brunswick) aquifer is strongly anisotropic, with the axis of maximum hydraulic conductivity generally parallel to bedding strike. Although the origin of the anisotropy is clearly related to the fractured nature of the aquifer, there has not been universal agreement over the immediate cause.

No uses of groundwater from the unconsolidated unit in the immediate vicinity of the site are known and, with the limited available drawdown, it is unlikely that a usable quantity of water could be obtained from the unit. Fluvial gravel deposits along the Raritan River have been used for water production, including potable water use. The Borough of Manville owns gravel wells near the Raritan River, which were formerly used for potable water.

2.2.2 Site Hydrogeology

The site hydrogeology is described in detail in the Groundwater, Surface Water and Sediment Draft Remedial Investigation Report, September 2000. An unconfined (water table) aquifer with a saturated thickness of 10 to 14 feet was observed in the unconsolidated sediments at depths from about 14 to 21 feet below grade. Locally, isolated perched water zones have been identified at depths of 6 to 10 feet below grade. Beneath the site, the groundwater surface occurs in the deep sand and gravel unit. It appears likely that groundwater in the uppermost zone of the bedrock is in direct

hydraulic connection with the saturated zone in the unconsolidated sediments.

2.3 Summary of Field Investigation Data

CDM conducted a pre-design field investigation for OU1 under Base Contract DACW41-99-D-9009 with the USACE, Technical Design for Remedial Selection and Pre-design Planning. The sampling program was developed to characterize the nature and extent of creosote product material associated with the historic lagoons, canals and exit trench areas. To accomplish this objective, CDM defined the difference between stained soil and product. For the purposes of this investigation, product was considered to be above 30% creosote based on the definitions below.

1-3%: There is a creosote odor and/or low HNu hits. There is some creosote sheen on the grains, but the concentration is not high enough to discolor the grains. (SHEEN)

10%: There is enough creosote on the soil grains to almost completely cover the grains and mask their original color. There is no creosote in the pore spaces. (STAIN)

15%: There is enough creosote on the soil grains to completely cover the soil grains and mask their original color. There is no creosote in the pore spaces. (STAIN)

20%: The creosote thickly covers the soil grains, completely masking the original color and begins to fill the pore spaces. (STAIN)

25%: The creosote thickly covers the soil grains, completely masking their original color and product is evident in the pore spaces. If you hold the sample, the creosote will not flow out of the pore spaces. (STAIN)

30%: The creosote thickly cover the soil grains, completely masking their original color and the pore spaces are half full of creosote. If you hold the sample, the creosote will not flow out of the pore spaces. (PRODUCT)

40%: The creosote thickly covers the soil grains, completely masking their original color and the pore spaces are almost full of creosote. If you hold the sample, the creosote will flow out of the pore spaces. (PRODUCT)

50%: The creosote has completely covered the grains and filled the pore spaces, but the core is still matrix supported. If you hold the sample, the creosote will flow out of the pore spaces. (PRODUCT)

70%: There is more creosote than matrix. The creosote is free flowing, but there is still 30% debris in the creosote. (PRODUCT)

85%: There is significantly more creosote then matrix. The creosote is free flowing. There is almost no matrix in these areas. (PRODUCT)

2.3.1 Remedial Investigation

The objective of the RI was to characterize the lithology and the nature and extent of contamination in the surface and subsurface soil in Rustic Mall. The RI included

installation of shallow and deep soil borings, collection of soil samples, and installation of shallow and deep monitoring wells in ten of the borings. During the RI, CDM installed 43 shallow and 23 deep soil borings in Rustic Mall. The deep borings were advanced to the bedrock surface, which is approximately 35 feet deep at this site, while the shallow borings were advanced to varying depths in the unconsolidated zone, primarily targeting the depth of an observed clay/silt layer at approximately 14 feet bgs. The lithology of each boring was continuously logged. Based on a schedule outlined in the project work plan, soil samples were collected at each boring and analyzed for target compound list (TCL) volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and pesticide/polychlorinated biphenyls (PCBs) and target analyte list (TAL) metals. Some samples were also analyzed for asbestos, pH, total organic carbon (TOC), and grain size, as planned. Monitoring wells were installed in ten of the deep borings to determine the hydraulic gradient across the unconsolidated aquifer unit.

2.3.2 Pre-Design Investigation

In addition to RI, CDM was tasked with conducting a pre-design field investigation for OU3. The pre-design investigation focused on defining the limits of soil contaminated with creosote and PAHs above the ACGs defined in the OU3 ROD, with the goal of delineating the PAH contamination to the extent that the NJDEP Post-Excavation Sampling Criteria found in New Jersey Administrative Code (NJAC) 7:26E were met. The field investigation includes:

- Design Investigation. Collect and analyze samples from borings located and spaced to delineate the contamination noted in borings during the RI.
- Waste Characterization Sampling. Collect and analyze samples at a frequency of one per 200 tons of soil to be disposed, as required by the Subtitle C disposal facility. This equates to roughly one sample in every 4 feet boring interval.
- NJDEP post-excavation sample information. Collect and analyze samples at such a frequency that designed excavations will have a minimum of one samples per 900 square feet of excavation, and one per 30 linear feet of excavation sidewall.

The pre-design investigation addressed three contaminated areas of the Rustic Mall, which are referred to as the Northeast, Southeast, and South Central Areas in the OU3 ROD. These areas are renamed as North, South, and Southwest Areas, respectively, and referred to as such throughout the design documents and this report.

The OU3 pre-design field activities included drilling soil borings and collecting soil samples at various intervals. Using the ROD as a guide, several borings were proposed to further delineate the contamination observed during the RI in these three contaminated areas. In general, a 30 by 30-foot grid was imposed on each area, with borings located in the middle of each grid interval, and samples collected and analyzed at a frequency of one sample per 2 feet of boring depth. Most of the borings were advanced to a maximum depth of 18 feet bgs, but a few borings were installed deeper to approximately 35 feet bgs at the request of NJDEP to investigate deeper pockets of

contamination. In addition, several shallow borings were installed to 4 feet deep in areas presumed to contain only shallow surface contamination.

The soil borings were installed using direct-push (Geoprobe) drilling and sampling method. Each borehole was abandoned with bentonite chips or a cement-bentonite mixture after removing the drilling tools from the subsurface. All locations were restored to pre-existing conditions.

Soil samples were collected for polycyclic aromatic hydrocarbons (PAH) analysis using EPA SW-846 Method 8270c. Lithology of each boring was continuously logged, and observations were made of the OVM readings, moisture content, and visible signs of contamination.

CDM conducted four rounds of field investigations. CDM mobilized the first round of field investigation in Rustic Mall in April 2003. Results were compiled and presented, along with a preliminary excavation drawing, in July 2003 (CDM 2003). A second round of field investigation was conducted in October 2003. The intent of the second round was to fill data gaps left from the first round of field investigation since the exact limits of excavation could not be completely determined from the first round results. Based on the second round of field investigation, a third round of sampling was required to fill the remaining data gaps. The third round of field investigation was conducted in January 2004. Results from the second and third rounds of field investigation were presented in April 2004 (CDM 2004). The final round of field investigation was conducted in February 2005, and results were presented in May 2005 (CDM 2005a).

Waste characterization for OU3 was performed using the results from the field investigations. Waste characterizations for South/Southwest Areas and North Area were presented separately in November and December 2005, respectively (CDM 2005b and CDM 2005c).

2.3.3 Topographic Survey

The locations of the pre-design borings were surveyed and added to the existing topographic base map for the site, which was prepared by Kennon Surveying Services, a licensed New Jersey land surveyor. The boring locations are shown on the contract drawing.

2.4 Design Criteria

The ROD for OU3 specified excavation of product, creosote stained soil, and residual contaminated soil that exceeds the ACGs. The contaminated soil that exceed the ACGs as determined by analytical laboratory were addressed in accordance with the OU3 ROD, which specified the excavation and transportation for off-site treatment and/or disposal of soil containing PAHs in excess of the ACGs. Table 2-1 contains the site-specific ACGs, which were used as the basis for the design and remediation.

2.5 Remedial Design Documents

Based on the investigation data and established design criteria, CDM developed the

design documents, including DAR, drawings, specifications, and cost estimate. The contract drawings included detailed construction sequence plans, in which the Rustic Mall was further divided into four work areas to facilitate traffic control, utility relocation, and construction sequence planning.

2.5.1 Site Specific Plans

For the most part, work plans developed for the Lagoon B (OU1 Phase 1) remediation were utilized in addressing all major project elements. Several work plans were amended to reflect the Rustic Mall property-specific conditions and to ensure compliance with the project design documents. USACE reviewed and approved all plan addenda prior to implementation. The following plans were amended and/or submitted for approval:

- Excavation and Handling Plan (Addendum) - (April 14, 2006)
- Traffic Control and Transportation Plan (Addendum) - (April 14, 2006)
- Soil Erosion and Sediment Control Plan (Addendum) - (July 25, 2005)
- Ambient Air Monitoring Plan (Addendum) - (August 1, 2005)

Section 3

Remedial Construction Activities

Rustic Mall remedial construction activities started in June 2005 and were completed in February 2008. A summary of the major construction activities completed at the Federal Creosote site during the Rustic Mall remediation is presented below.

3.1 Site Preparation

Site preparation activities including site survey, temporary facilities mobilization, resident relocation, erosion and sediment control, site security, etc. were performed prior to commencement of remedial construction. Site preparation activities are described in the following paragraphs.

3.1.1 Site Survey

The Rustic Mall properties were surveyed during the pre-design investigation as described in Section 2.3.2. Pre-remedial conditions of the properties are shown on the contract drawings. AutoCAD files of the property surveys were provided to SES prior to construction.

3.1.2 Temporary Facilities

The OU3 Remedial Action took place entirely in Rustic Mall. Because the excavation included the area used as the Support Zone during previous phases of work, the excavation was completed in stages, and the Support Zone was relocated to the northeast corner of Rustic Mall during the course of remedial construction. The support facilities included 2 double-wide, 60-ft long trailers. One trailer was used by the EPA and USACE, one was used by SES. Smaller trailers were used by the SS&HO, another for the construction quality control personnel, and a security trailer. Temporary water, sanitary, electric and telephone services were also relocated to the temporary facilities. The support zone was completely secured with an 8 feet high chain link fence.

The decontamination pad constructed within the Contamination Reduction Zone (CRZ) of Lagoon A was used for equipment decontamination during the Rustic Mall remediation. The pad was integrated with the truck tarping station and was constructed using 6-mil polyethylene liner, berm containment, and water collection sump. The sump was equipped with an electric pump. Collected wastewater was treated at the on-site wastewater treatment plant prior to being discharged to surface water via the storm sewer system. Individual CRZs were established at each remote excavation location for personnel decontamination, which consisted of removal of personal protective equipment (PPE).

Three primary stockpiles were also established in the footprint of the former Lagoon A area to facilitate soil and debris staging of the three waste types prior to off-site disposal. The stockpiles included Subtitle D, Subtitle C, and a thermal treatment pile.

3.1.3 Soil Erosion and Sediment Control

SES developed a Soil Erosion and Sediment Control Plan for the Lagoon B remedial activities. To address site-specific changes for the OU3 remediation, SES submitted an addendum of the original plan to Somerset-Union County Soil Conservation District (SCSCD) for recertification on July 25, 2005. To control offsite siltation/erosion that may result during precipitation events, the perimeter of excavation areas and the stockpiles were encompassed with silt fence. Storm water inlets were covered with filter fabric and surrounded by hay bales to prevent siltation of the system. Finally, the stabilized construction entrance was maintained during the course of the Rustic Mall construction.

3.1.4 Site Security

Site security was provided by Internal Intelligence, a security firm located in New Jersey, under subcontracting agreement with SES. Security guard was stationed in an office trailer located within the support zone. Security guard was on site 16 hours on weekdays and 24 hours on weekends and holidays. During the course of the construction, SES personnel provided site security during regular working hours. All visitors were required to sign-in upon entering the support zone.

3.2 Property Access

Access to the properties to be remediated was coordinated through EPA and USACE. OU3 remedial action took place on property belonging to Rustic Mall and the Borough of Manville. Prior to the start of the remedial action, EPA obtained access agreement for Rustic Mall.

3.3 Deed Notice Properties

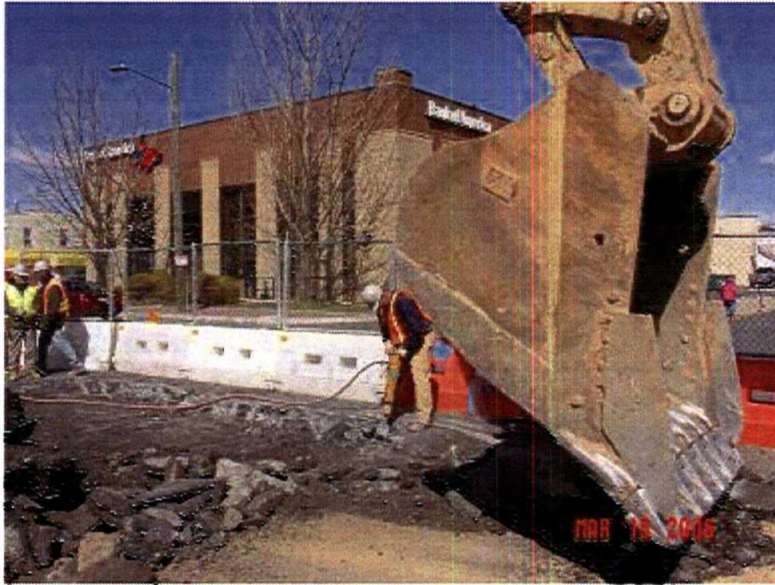
As per the OU3 ROD, the remedy for Rustic Mall soil includes institutional controls for soil contamination exceeding depths of approximately 14 feet bgs. Institutional control in the form of deed notice will be placed on the property by NJDEP in instances where soil containing residual creosote or PAH contamination cannot be excavated due to depth restrictions or proximity to buildings. The deed notice will record the presence of soil contamination below 14 feet bgs, and prevent digging below 14 feet bgs on the property.

3.4 Demolition

Remedial excavation required the removal of at-grade features such as pavement, curbs, gutters, sidewalks, driveways, and walkways. In addition, above-ground items such as fences, gates, site lighting, and traffic signs were removed.

Demolition of the Rustic Mall building that contained the supermarket and other businesses was conducted by the Rustic Mall property owners during the course of remedial construction. The demolition and removal of above-ground portions of the building was completed entirely without EPA involvement. Once the building was demolished to the slab, foundation and slab removal was conducted by SES as excavation progressed.

Photo 3-1 – Pavement Removal



3.5 Monitoring Well Abandonment

Existing monitoring well MW-120S was indicated on the Contract Drawings to be abandoned prior to beginning excavation. Well abandonment included the removal of all well construction materials, excluding the filter pack. Abandoned well was grouted from the bottom to ground surface. The contractor submitted all applicable permits, well abandonment record, and licenses required to perform work. Existing monitoring wells MW-111S, MW-111I, MW-111D, and MW-122S were located in either excavation slope areas or excavations that are shallow enough that wells were not compromised by excavating around it. These monitoring wells were protected during construction and remained in place for future groundwater monitoring.

In addition, a shallow well was discovered during excavation in the north area. The well was most likely part of the plant process. A well search was completed and the well was abandoned by a NJ-licensed driller.

3.6 Site Clearing

Clearing and grubbing of the South Area was conducted as needed for the remedial construction. Stumps from grubbing operations were decontaminated and disposed of as construction and demolition debris.

Photo 3-2 – Site Clearing



3.7 Excavation

The primary objective of the project was the removal and disposal of contaminated soil within Rustic Mall that may pose risks to human health and may continue to be a source of groundwater contamination. Excavation activities were initiated in December 2005 and were completed on November 2007.

The excavation was organized into four areas: South, Southwest, and two North Areas (North Area 1 and North Area 2). SES excavated to the limits in the South, Southwest, and North Areas of the Rustic Mall as shown on the contract drawings. Upon completion of excavations, SES inspected both the sidewall and the bottom of the excavated areas for visible sign of contamination. If contamination was suspected, the Contracting Officer was notified and SES proceeded as directed. A total of 177,844.08 of soil was excavated and transported off site for disposal.

Excavation was completed in phases throughout the Rustic Mall in order to minimize the impact to the businesses that were operating at the time. The sequence was as follows; Southwest Area, North Area 1 (Support Zone), North Area 2, South Area. At the beginning of excavation in North Area 2, the building demolition was uncertain, therefore the original limits of excavation were such that the building could remain if the owners didn't demolish it. Excavation limits in North Area 2 and the South Area were changed during the design as the building footprint became available for investigation and design.

As discussed in Section 2.3, contaminated areas were generally well defined by implementing the sampling and analysis program developed during the pre-design investigation phase of the project. However, during excavation in the southern end of the North Area, additional contamination was discovered in the south sidewall of the southernmost excavation grid, in an area that was underneath the main Rustic Mall

building. Since the building had been demolished at this point, the decision was made to pursue the additional contamination. Historical aerial photographs were consulted, which suggested that the additional contamination found might be part of a canal-like feature between the North and Southwest Areas. Additional investigation was conducted along the center of the feature to delineate it prior to excavation, and the excavation design was revised accordingly. During excavation in this area, additional evidence of visible contamination was found in areas that hadn't previously been the subject of the pre-design investigation. This area was excavated in 4-ft deep segments, guided by the Contracting Officer oversight, and verified by post-excavation sampling.

SES utilized PC-400/Cat-345, Komatsu PC-300, and PC-200 excavators to excavate the contaminated materials. Material excavated from shallow excavation areas was placed in dump trucks and transported to the established stockpile area located within Lagoon A.

Excavated contaminated material was segregated into three distinct stockpiles corresponding to the waste types as summarized in Table 3-1. To avoid cross contamination from one stockpile to another, SES designated an excavator for each stockpile to maintain and out-load the contaminated soil. Stockpiled materials were loaded into lined trucks for transportation to treatment/disposal facilities.

Perimeter dewatering system was not necessary during the Rustic Mall remediation since the excavations were relatively shallow. Perched water encountered during the excavation as well as surface runoff that accumulated within the excavation areas was pumped out as needed and treated at the on-site wastewater treatment plant prior to discharge.

Photo 3-3 – Excavation Operations



Photo 3-4 - Excavation and Loading to Stockpiles



Photo 3-5 - Dewatering



3.8 Odor Control

Ground treatment methods that were determined to be effective during the Lagoon B remediation were utilized to control odor. This method consisted of placing plastic sheeting directly over excavation areas and stockpiles.

3.9 Excavation Support System

Depending on the depth of the excavation, sheeting, soldier pile and lagging, or sloping was utilized to provide excavation support to existing structures. CDM designed all excavation support systems. There was no new soldier piles installed during the OU3

construction. However, the existing soldier piles installed during the Lagoon A remediation were reused as a support system for the adjacent Rustic Mall excavation. Re-use of the existing soldier piles required installation of lagging, walers, and tiebacks during the Rustic Mall excavation. All sheeting, soldier pile and lagging were installed by Linde-Griffith Construction Co., of Newark, NJ. An ICE 4500 vibratory hammer rigged to a Manitowoc 3000W 65-ton crane and a Bower BG18 drill rig was utilized to install the sheeting and soldier piles respectively. The tiebacks were installed by using a Clem drill rig. The soldier piles and sheeting were cut off four feet bgs and abandoned in place. Lagging and walers were removed, and tiebacks were abandoned in place. The locations of the sheet piles are shown on the as-built drawings included in Appendix C.

A 1:1 slope system was established for excavations deeper than four feet bgs. When excavation was directly adjacent to structures' foundations, a 1.5 horizontal to 1 vertical was established for excavations greater than ten feet bgs and a 1:1 slope system was established for excavations of ten feet bgs or less.

Photo 3-6 – Excavation Support System (Sheeting)



3.10 Backfilling

SES backfilled the excavated areas using clean imported backfill material from several sources including Tomkat Construction, Inc., Stavola Construction Materials, Maddox Materials, LLC, and Excavating Material & Equipment, Inc. (EME). Prior to delivery to the site, physical and chemical analyses were performed on every 5,000 CY lot of material to ensure that backfill materials met the project requirements and specifications. All backfill material placed at the site met NJDEP residential direct contact cleanup criteria.

Backfill material was placed directly in the excavation and spread in horizontal layers up to 8 inches thick utilizing bulldozers. Placed material was compacted by utilizing an SD-40D roller to a minimum of 95% of its maximum dry density by Standard Proctor

(ASTM D-698). Hand compactors and/or vibratory plates were utilized to compact areas immediately adjacent to houses or other structures. Compaction and moisture content testing of the backfill material was performed by Craig Testing Laboratories, Inc. located in Mays Landing, New Jersey. Approximately 154,383.98 tons of common fill and 14,030.68 tons of Dense Graded Aggregate (DGA) were utilized to fill the OU3 excavation areas.

Photo 3-7 - Backfill Operations



Photo 3-8 - Backfill Compaction Operations



3.11 Waste Disposal

EPA determined that the lagoon and canal soil were contaminated with RCRA listed (FO34) wastes which directed the selection of appropriate land disposal protocols. Excavated material was disposed of at one of three types of disposal facilities; thermal treatment and disposal, Subtitle C landfill, or Subtitle D landfill. Disposal was determined by the presence of creosote product and the degree of PAH contamination. Excavated material was segregated into stockpiles corresponding to the three different types of disposal. Excavated material was loaded into dump trucks and transported to stockpiles in Lagoon A and subsequently transported off site for treatment and disposal. Treatment and disposal requirements for the hazardous wastes material encountered during the OU3 remediation are summarized in Tables 3-1, 3-2 and 3-3. Table 3-4 summarizes the quantities of material disposed of during the Rustic Mall remediation.

Material to be disposed of at Subtitle C and D facilities were transported to their respective facilities by utilizing 70,000-lb triaxle dump trucks. Material requiring thermal treatment and disposal was loaded into 80,000-lb dump trailers for transportation to the thermal treatment facility. Trucks transporting excavated material to the facilities were required to be lined, tarped, and decontaminated (tire wash) prior to leaving the site.

Photo 3-9 - Waste Hauler



3.11.1 Wastewater

Perched water and surface runoff encountered during the excavation activities and wastewater generated from equipment and personnel decontamination was treated at the on-site wastewater treatment plant prior to being discharged to the storm sewer system, and ultimately to the Millstone River. During the Rustic Mall remediation, SES relocated the previously designed, approved, and permitted Waste Water Treatment Plant (WWTP) from Lagoon B to Rustic Mall to treat wastewater generated during the remaining remedial activities. The plant remained on-site for the duration of the Rustic Mall remediation. The system consisted of an oil-water separator, followed by an

influent equalization tank, followed by bag filters, granular activated carbon, and effluent storage tanks. The plant was operated and maintained in accordance with the Federal Creosote Superfund Site Wastewater Treatment Plant Operations and Maintenance Manual (SES 2001). Plant design rationale is also included in the manual. SES obtained a permit in EPA's name (Permit No. 01-0568) from NJDEP to construct and operate the plant. A copy of the permit is included in Appendix A.

Because the treated water was ultimately discharged to the Millstone River, compliance with the New Jersey Pollutant Discharge Elimination System (NJPDDES) Master General Petroleum Products Cleanup (GPPC) was required. Surface Water Master General Permit (No. NJ0102709) and Discharge Authorization Permit (No. NJG0139050) obtained during the Lagoon B remediation were renewed. Copies of the renewed permits are included in Appendix A, and the Treatment Works Approval is found in Appendix B. Table 3-5 below summarizes the wastewater treatment plant effluent permit discharge limits. Table 3-6 is a summary of the wastewater treatment plant sampling requirements. Approximately 628,544 gallons of wastewater was treated and discharged during the OU3 remedial activities.

There were two non-compliances reported during the OU3 remediation.

- Non-compliance on September 27, 2006
Copper was detected at 101 ppb which is greater than the daily maximum permit limit and monthly average permit limit. Note that the sampling frequency was reduced to one per month starting June 7, 2005. This non-compliance was considered an anomaly. A second metals analysis of the effluent sample was ordered to rule out laboratory error, and the system was run in recirculation mode where no free copper was detected in the system. It was suspected the cause of the non-compliance was channeling in activated carbon column in conjunction with unusually high-TSS influent from dewatering a new phase of excavation. As a corrective action, backwash of activated carbon units will be performed at the beginning of every operating day, regardless of pressure differential. In addition, bench testing has shown better coagulation using an alternative polymer. A high molecular-weight cationic polymer will be used to coagulate and remove fine silt along with metals adsorbed to particle surfaces.
- Non-compliance on December 20, 2006
Copper was detected at 53 ppb which is higher than the monthly average permit limit. Note that the sampling frequency was changed to one per month starting June 7, 2005. This non-compliance occurred due to cold overnight temperature resulting in cold wastewater where polymer efficacy was greatly diminished. A polymer specialist has been contacted to evaluate other polymers designed specifically for copper sequestration and suitable for use in cold wastewater.

3.12 Site Restoration

Property features impacted by construction activities were restored and/or replaced in kind by the contractor. Site restoration consisted of in kind replacement of items such as pavement, concrete slabs, curb, sidewalk, concrete traffic island, trees, bushes, shrubs,

fencing, inlets, and manholes that were disturbed or removed during construction as shown on the restoration plans included in the contract drawings. Utility service laterals impacted by the excavation were also restored. Utility work was performed by the respective utility companies or their authorized representatives, except for water, sanitary, and storm sewer work, which was performed by SES. The restoration plans also include restoring the area currently occupied by the Support Zone and WWTP. The asphalt pavement in the portion of this area that lies outside of the excavation limits was milled and repaved. Grading in this area has been altered to improve the drainage from the existing condition.

Photo 3-11 – Concrete Island Restoration



Photo 3-12 – Pavement Restoration



3.13 As-Built Survey

Final as-built survey depicts the post-remediation conditions and final topography of each remediated property. Excavation as-built survey was also performed and excavation cross sections were prepared. Copies of as-built drawings are included in Appendix C. Final survey was performed by Kennon Surveying Services, Inc. of Warren, New Jersey, a New Jersey licensed land surveyor.

3.14 Soil Sampling and Analysis

Soil sampling and analysis was performed as described in the USACE-approved Sampling and Analysis Plan (SAP). Samples were analyzed for the primary site contaminants, PAHs, by SW-846 method 8270C.

3.14.1 Post Excavation Sampling

Upon completion of excavation up to the limits shown on the contract drawings, post excavation sampling was performed in accordance with the site specific SAP.

Post excavation samples were collected in locations shown in the contract drawings. The locations were established in compliance with NJDEP post excavation sampling criteria. For primary excavations, post excavation samples were collected at a rate of one sample for every 900 feet² of bottom area and one sidewall sample for every 30 linear feet of sidewall excavation. The collected post excavation samples were analyzed for PAHs. Post excavation samples were grouped into two categories as described below:

Documentation Samples

Documentation samples were collected in areas where excavation depth was greater than 14 feet bgs. These samples were collected at the maximum excavation limit. These samples were collected to document the location of any remaining contamination. Secondary excavation was not performed based upon the analytical results of the documentation samples.

Confirmation samples

Confirmation samples were collected by SES in areas where excavation depth was 14 feet or less, in cases where the pre-design investigation didn't meet the required coverage for post-excavation bottom and sidewall samples. Confirmation sampling results were compared to the ACGs. If results showed that contamination remained, secondary excavation was performed according to project specifications and as directed by the Contracting Officer. Secondary excavation was defined as excavation beyond the excavation limits shown of the contract drawings, was conducted in 2-foot increments (horizontal and vertical) up to a maximum depth of 14 feet or as directed by the Contracting Officer. Post excavation sampling requirements for secondary excavations were as follows:

- One sample from the excavation bottom for every 900 feet²

- For every 4 vertical feet of secondary excavation, one sample for every 30 linear feet of sidewall excavation

Property closure reports are included in Appendix D. These reports contain property drawings which show the locations of the post excavation samples.

3.14.2 Backfill Material Sampling

Excavated areas were backfilled with clean soil from off-site sources. Representative samples of backfill materials were collected and analyzed at a frequency of one sample for every 5,000 CY of imported material. Only material that met NJDEP residential direct contact soil cleanup criteria (NJAC 7:26D) and the project specifications was utilized.

3.15 Ambient Air Monitoring

SES amended the approved Ambient Air Monitoring Plan (AAMP) describing the methods and procedures utilized to determine the air contaminants that may be released during remediation activities. The contaminants of concern included; VOCs, PAHs, and respirable particulates. In addition, a meteorological system, monitoring wind speed and direction, ambient temperature, atmospheric pressure, solar radiation, and precipitation was installed within the support zone.

Ambient air monitoring was performed by using real time instrumentation and samples were collected for analysis in accordance with EPA T0-13, T0-14, and PM-10 methods for PAHs, VOCs, and respirable particulates, respectively. Tables 3-7 and 3-8 summarize the perimeter air monitoring/sampling requirements for the Rustic Mall remediation.

Table 3-9 summarizes air monitoring exceedances that occurred during the site operations. The exceedances are listed as real-time air monitoring issues and air sampling issues. Elevated dust levels were recorded due to railroad maintenance activities. In addition, elevated readings were recorded due to a significant rainstorm. These events were documented. Incorrect interpretation of lab data in the field caused the elevated air sampling results. Corrective actions were taken to avoid future data issues.

Section 4

Chronology of Events

Figure 4-1 summarizes the events that occurred during the Canal B Remedial Action.

Section 5

Performance Standards and Construction Quality Control

SES implemented a Quality Control (QC) program that incorporated the requirements of the project specifications and the approved site specific Contractor Quality Control Plan (CQCP). USACE provided Quality Assurance (QA) through the use of on site personnel to monitor project performance.

5.1 Project QA/QC Organization

Rustic Mall remedial action was supported by both field and office personnel. SES on site personnel consisted of Project Manager, Site Contractor Quality Control Manager, Site Safety and Health Officer, Project Engineer, and Project Superintendent. Overall project organizational chart is presented in Figure 5-1.

5.2 Construction QA/QC Implementation

A three-phase quality check was conducted for each definable feature of the work. The checks include preparatory, initial, and follow-up inspections. The preparatory inspection was performed after all required plans, documents, and materials were approved and copies were at the work site. The initial inspection was conducted after the completion of a representative sample of the work. The follow-up inspection consisted of daily quality control activities to ensure compliance with contract requirements until the completion of a particular definable feature of work.

5.3 Sampling and Analysis

A QA/QC system was implemented to ensure the accuracy, completeness, and precision of sampling data. Collected field QA/QC samples included field duplicates, matrix spike, matrix spike duplicates, and QA split samples.

5.3.1 Field Duplicates

Field duplicates are defined as a homogenized sample collected from a unique location that was divided into two separate sets of containers and submitted to the laboratory as two unique samples for analysis. Field duplicates were collected at a frequency of one duplicate for every 10 samples.

5.3.2 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD samples were collected to document the precision and consistency of the laboratory equipment. MS/MSD samples were collected at a rate of one sample for every 10 field samples.

5.3.3 USACE QA Sampling

USACE QA split samples were collected as follows. A sample was collected then divided into two distinct samples. The duplicate pairs were tracked so that the results

could be compared. One of the samples was submitted to the subcontracted project laboratory. The other sample was submitted to USACE Environmental Chemistry Branch laboratory located in Omaha. The results of the two samples were compared for analytical method accuracy. USACE QA split samples were collected and analyzed at a frequency of one for every 10 samples.

5.3.4 Data Review/Validation

Data were assessed by the on site QC manager. The QC manager reviewed field results for compliance with established QC criteria. Field measurements were assessed using daily instrument calibration, calibration check, and blank analysis.

Laboratory analytical data were subjected to review to assess data precision, completeness and sensitivity.

5.3.5 Sample Numbering

Sample numbering scheme was developed to identify each sample designated for laboratory analysis. The purpose of this numbering scheme was to provide a tracking system for retrieval of field and analytical data of each sample. A summary of the sample numbering scheme is presented in Section 4 of the previously approved Sampling and Analysis Plan submitted by SES.

5.4 In-Place Soil Moisture and Density Testing

Soil moisture and density testing of in-place backfill was performed as described in Section 3.10. Field testing was performed by subcontractor personnel using a Troxler Nuclear Moisture Density Gauge.

5.5 Health and Safety

As required by the Site Safety and Health Plan (SSHP), daily tailgate meetings were conducted. Special health and safety considerations were discussed as they pertained to the daily activities. Weekly meetings were also held to review issues related to any new activities. SES's Health and Safety Director, Paul J. Hitcho, CIH, also conducted periodic Health and Safety inspections during the course of the project. A copy of the April 14, 2005 inspection report is included in Appendix E. USACE also conducted periodic health and safety audits during construction activities. Copies of USACE health and safety audits are also included in Appendix E.

General site workers were required to be trained for Hazardous Waste Operations and Emergency Response in accordance with 29 CFR 1919.120, and excavation and trenching safety trained. Individuals involved with shipping of hazardous materials were required to receive the appropriate Department of Transportation (DOT) training. Most of the work was conducted in Level D PPE with a contingency for Level C upgrade for personnel in direct contact with the excavated material based on air monitoring results. Ambient air monitoring, in the form of real-time VOC and dust monitoring and high-volume particulate sampling and VOC sampling was also conducted within the vicinity of the excavation areas throughout the period of construction as discussed in Section 3.15.

Minor incidents but no injuries were reported during the course of the remedial action activities. On June 15, 2006, an operator was utilizing a PC 300 track hoe on top of the Subtitle C material stockpile within the Lagoon A property when a piece of asphalt fell from the bucket and came in contact with the polyvinyl chloride (PVC) electrical conduit running along side the stockpile boundary. The PVC conduit was broken and the wires were severed. Power was interrupted to the yard scale. EID was called to the site to perform repairs to the line. As corrective actions, the electrical conduit was made more visible by using high visibility orange paint, and an orange safety fence was put up on both sides of the conduit.

On June 16, 2006, an operator was operating an Ingersol Rand vibratory drum roller to compact lifts of common fill when the slope gave way under the roller. The roller slid sideways down the slope approximately seven feet at which time the roller tipped over on its side. The operator was immediately assisted by two co-workers who helped him from the roller. He was taken to a local medical center for observation but was released without injury. The roller was righted using cables and a backhoe. The instrument panel cover was bent during the upset but can be re-attached. A Safety Stand Down Meeting was held to address "Lesson Learned" issues concerning the safe operation of equipment and to re-emphasize the Safe Plan of Action.

There was a slip and fall observed by Raymond Lo, USACE New York District, in the morning of March 7, 2007; the worker got up and was not hurt. It was recommended to talk about slip, trips, and falls during a morning tool box talk. The recommendation was instituted immediately.

On April 24, 2007, a worker with the crane crew for sheet piling removal was torch cutting two inch holes with short sleeve shirt. Due to the sparks coming from the torch cutting, it was recommended that he wear long sleeve shirt. The recommendation was instituted immediately.

All incident reports are provided in Appendix E.

5.5.1 Personnel Exposure Air Monitoring

Personnel exposure air monitoring was conducted during the Rustic Mall remediation. The collected samples were analyzed for PAHs and benzene-toluene-ethylbenzene and xylenes (BTEX) in accordance with NIOSH methods 1501 and 5506, respectively. The samples were also analyzed for respirable dust as indicated in Section 3.15. All samples collected during the Rustic Mall sampling events resulted in concentrations below OSHA threshold values.

5.5.2 Personnel Decontamination

Personnel decontamination was performed upon exiting the exclusion zone and at the end of each work day. A nontransparent enclosure was strategically located within the decontamination pad to allow field personnel exiting the exclusion zone to change into street clothes prior to entering the support zone.

5.5.3 Equipment Decontamination

All equipment exiting the exclusion zone was required to be decontaminated prior to entering the support zone or leaving the project site in accordance with the SSHP.

Section 6

Inspection and Certification

6.1 Inspections

In addition to the three-phase inspection described in Section 5.2, pre-final and final inspections were performed following the completion of the remedial construction. The purpose of these inspections was to ensure that all work was performed to the satisfaction of the EPA and USACE.

6.1.1 Pre-Final Inspection

Pre-final inspections were conducted upon the completion of the remedial activities at each work area. Representatives from all parties including EPA, USACE, and SES were present. During these pre-final inspections, punch lists documenting observed deficiencies were prepared. The contractor was required to correct all deficiencies prior to the final inspection. Appendix F contains the copies of individual property pre-final inspection reports documenting punch list items requiring corrective actions.

6.1.2 Final Inspection

Upon correction of all deficiencies and submittal of outstanding project document, representatives of EPA, USACE and SES conducted a Final inspection on March 19, 2008. Although minor punch list items were identified during the inspection relating to the elevation of a storm sewer grate and demobilization of the last trailer remaining on site, no outstanding issues concerning remediation were raised during the inspection, and the remediation of the Rustic Mall was considered complete.

On March 19, 2008, Rich Puvogel, EPA RPM and Drew Sites, NJDEP's representative inspected the site. Subsequent to the inspection, Mr. Puvogel issued a final inspection memorandum documenting the inspection. A copy of the memo is included in Appendix G.

Section 7

Operation and Maintenance

The Rustic Mall remediation was a permanent remedy. Therefore, long-term O&M was not required, except for maintenance of the new vegetation, which consisted of sod areas and planted trees. Maintenance activities such as mowing, removal of weed species, and watering were conducted during the first year following vegetation establishment.

7.1 Warranty

As required by the contract documents, SES was responsible for the vegetation for a 12-month period following establishment.

Section 8

Summary of Project Cost

Rustic Mall construction contract was executed as a cost-reimbursable contract. The work was completed under PRAC Contract Number DACW41-01-D-0001, awarded through USACE Kansas City District.

8.1 Remedial Construction Cost

The original negotiated contract amount for the Rustic Mall remedial action at the Federal Creosote site was \$14,536,528. Project variations during the remedial effort prompted two contract modifications that increased the contract budget amount by \$50,975,123 to \$65,511,651. Total payment to SES for the Rustic Mall remedial action was \$57,308,940.

Section 9

Observations and Lessons Learned

- The Rustic Mall property owners were conducting demolition of the mall buildings during the remedial excavation. Once the demolition was complete, the previously inaccessible area was investigated, and the excavation plans were revised to remove contamination found in a canal-shaped feature between the North and Southwest Areas. Excavation in this canal was revised in the field when it was noted that the sidewalls appeared clean. Samples of the material removed from the slope were collected and analyzed on a quick turnaround, and ultimately disposed as Subtitle D material.
- Once the buildings were demolished and only the building slab remained, the contractor was able to construct soil stockpiles where suspect soil was stored, sampled, and ultimately disposed from according to the sample results. A total of 3,416 tons of material originally designated for thermal treatment was stockpiled and sampled. Of this amount, approximately 2,677 tons of soil was switched from thermal treatment to Subtitle C disposal, and another 739 tons were disposed as Subtitle D by utilizing this suspect material stockpile.
- When excavating near the large diameter storm sewer in the alleyway east of the building in Rustic Mall, the contractor noted that the material used for pipe bedding and backfill was also contaminated. The contamination was not detected during pre-design investigation phase because the presence of the pipe prevented the engineers from drilling near it.
- Since redevelopment plans were uncertain at the time of design, the original restoration plans showed restoration of asphalt surfaces in areas that were previously roadways, with dense graded aggregate on all other surfaces. During restoration, as redevelopment plans were being developed, EPA and the contractor worked closely with the Borough and property owners to eliminate much of the proposed asphalt surface.

Section 10

Contact Information

Table 10-1 summarizes the key project personnel contacts.

Section 11

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TABLES

Table 2-1
OU3 Analytical Cleanup Goals

Chemical Parameter	Action Level (ppm)
Benzo(a)pyrene	0.66
Benzo(a)anthracene	0.9
Chrysene	90
Benzo(b)fluoranthene	0.9
Benzo(k)fluoranthene	9
Indeno(1,2,3-cd)pyrene	0.9
Dibenzo(a,h)anthracene	0.66

Table 3-1
OU3 Waste Categories

Waste Type, RCRA Designation	Waste Definition
Contaminated Soil, F034 based on contained-in policy	Soils with PAH concentrations exceeding the Analytical Cleanup Goals (ACGs)
Soil, Non-hazardous	Any soils with PAH concentrations that do not exceed the ACGs
Debris, Non-hazardous	<ul style="list-style-type: none"> ■ Concrete slabs from demolition of building foundation, foundation walls, and sidewalk ■ Sewer pipe from storm sewer demolition ■ Other building materials ■ Boulders ■ Tree stumps from grubbing operations

Table 3-2
Universal Treatment Standards for F034 Waste

Regulated Hazardous Constituent		UTS for F034 Creosote Waste	10 Times UTS for F034 Contaminated Soil
Common Name	CAS No.	Concentration in mg/kg	Concentration in mg/kg
Acenaphthene	83-32-9	3.4	34
Anthracene	120-12-7	3.4	34
Benzo(a)anthracene	56-55-3	3.4	34
Benzo(b)fluoranthene	205-99-2	6.8	68
Benzo(k)fluoranthene	207-08-9	6.8	68
Benzo(a)pyrene	50-32-8	3.4	34
Chrysene	218-01-9	3.4	34
Dibenzo(a,h)anthracene	53-70-3	8.2	82
Fluorene	86-73-7	3.4	34
Indeno(1,2,3-c,d)pyrene	193-39-5	3.4	34
Naphthalene	91-20-3	5.6	56
Phenanthrene	85-01-8	5.6	56
Pyrene	129-00-0	8.2	82
Arsenic	7440-38-2	5.0 mg/l TCLP	NA
Chromium (Total)	7440-47-3	0.60 mg/l TCLP	NA

Table 3-3
LDR Treatment and Disposal Requirements

Waste Type, RCRA Designation	LDR Treatment Requirements	LDR Disposal Requirements
Contaminated Soil, F034 based on contained-in policy	<p>For soil with PAH concentrations >10 times UTS:</p> <ul style="list-style-type: none"> ■ Achieve a 90% reduction in PAH concentrations, or ■ Reduce PAH concentrations to less than 10 times the UTS. 	<p>Dispose of in Subtitle D landfill or equivalent after treatment.</p> <p>For soil with PAH concentrations <10 times UTS: Dispose in Subtitle C landfill or equivalent without treatment.</p>

Table 3-4
OU3 Material Disposal Summary

Facility	Address	Permit No.	Facility Type	Quantity (Tons)
Bennett Environmental Inc.	80 Rue Dez Melezes St. Ambrose, Quebec, Canada G7P2N4	7610-02-01-0603816	Thermal Treatment and Disposal	30,265.66
			Subtitle C	1,579.18
Kimball Facility (Clean Harbors)	2247 South Highway 71, Kimball, NE 69145	NED 981723513	Thermal Treatment and Disposal	29,211.29
Horizon Facility (Biogenie)	120 Route 155 Grandes-Piles, Quebec, Canada G0X 1H0	NRV 000078964	Subtitle C	18,248.59
Allied Waste Facility (Epic)	County Road 33 Mauk, GA 31058	133-033D	Subtitle D	11,789.65
Conestoga Landfill (Earthwatch)	420 Quarry Rd Morgantown, PA 19543	101509	Subtitle C	41,192.98
			Subtitle D	45,556.73

Table 3-5
OU3 Wastewater Treatment Plant Effluent Permit Requirements

Parameter	Effluent Discharge Limits	
	Monthly Average	Daily Maximum
TSS	Report ppm	40 ppm
TPH	10 ppm	15 ppm
TOC	Report ppm	20 ppm
Total Cr	50 ppb	100 ppb
Total Cu	50 ppb	100 ppb
Total Ni	72 ppb	144 ppb
Total Pb	37 ppb	79 ppb
Fluoranthene	25 ppb	68 ppb
Fluorene	22 ppb	59 ppb
Phenanthrene	22 ppb	59 ppb
Pyrene	25 ppb	67 ppb
Benzo(a)anthracene	Report ppb	10 ppb
Naphthalene	22 ppb	59 ppb
Benzene	Report ppb	7 ppb
Tetrachloroethylene	Report ppb	16 ppb
TBA	Report ppb	Report ppb
2,4- Dimethylphenol	18 ppb	36 ppb
Phenol	Report ppb	26 ppb
MTBE (influent)	Report ppb	Report ppb
MTBE (effluent)	Report ppb	70 ppb
MTBE % Removal	>85%	NA
Effluent Flow	Report GPD	Report GPD
Parameter	Minimum	Maximum
pH	6.0 s.u.	9.0 s.u.

Table 3-6
OU3 Wastewater Treatment Plant Sampling Requirements

Parameter	Function	Frequency	Analytical Method	Container	Preservatives
Flow	O&M	Every other hour	SES SOP	NA	NA
pH	O&M	Per shift	EPA 150.1	8 OZ Jar	Analyze immediately
pH	Permit	Twice a week*	EPA 150.1	125 ml HDPE	Cool 4 °C
TSS	Permit	Twice a week*	EPA 160.2	500 ml HDPE	Cool 4 °C
TPH	Permit	Twice a week*	QA-025	1 liter Amber	pH<2 HCl Cool 4 °C
TPH	O&M	Twice a week*	Hach 10052	100 ml Poly	Analyze immediately
TOC	Permit	Twice a week*	EPA 415.1	60 ml HDPE	pH<2 HCl Cool 4 °C
Total Cr	Permit	Twice a week*	EPA 200.7	500 ml HDPE	pH<2 HNO ₃
Total Cr	O&M	Twice a week*	Hach 8024	100 ml Poly	Analyze immediately
Total Cu	Permit	Twice a week*	EPA 200.7	500 ml HDPE	pH<2 HNO ₃
Total Cu	O&M	Twice a week*	Hach 8143	100 ml Poly	Analyze immediately
Total Ni	Permit	Twice a week*	EPA 200.7	500 ml HDPE	pH<2 HNO ₃
Total Ni	O&M	Twice a week*	Hach 8150	100 ml Poly	Analyze immediately
Total Pb	Permit	Twice a week*	EPA 200.7	500 ml HDPE	pH<2 HNO ₃
Total Pb	O&M	Twice a week*	Hach 8317	100 ml Poly	Analyze immediately
SVOC	Permit	Twice a week*	EPA 625	1 liter Glass	Cool 4 °C
MTBE (influent)	Permit	Twice a week*	EPA 624	40 ml Glass	HCl
MTBE (effluent)	Permit	Twice a week*	EPA 624	40 ml Glass	HCl
Benzene	Permit	Twice a week*	EPA 624	40 ml Glass	HCl
TCE	Permit	Twice a week*	EPA 624	40 ml Glass	HCl
TBA	Permit	Twice a week*	EPA 624	40 ml Glass	HCl
2,4-Dimethylphenol	Permit	Twice a week*	EPA 625	1 liter Glass	Cool 4 °C
Phenol	Permit	Twice a week*	EPA 420.1	1 liter	pH<2 H ₂ SO ₄ Cool 4 °C
Phenol	O&M	Twice a week*	Hach 8047	100 ml Poly	Analyze immediately

* Sampling frequency changed to once a month as of June 7, 2005.

**Table 3-7
OU3 Respirable Dust Monitoring Requirements**

Parameters	Action Level¹	Frequency ^{2,3} per location	Analytical Method	Action Required
Background				
Real Time (PM-10) ²		Continuous with 15-minute averages	Real Time	
High Volume (PM-10) ³		2 days per month (1 workday + 1 weekend day) 1 day - changed conditions	PM-10	Coinciding with high volume sampling in resident areas.
Predominate Airborne Pathway - Each Targeted Residential Property or Perimeter Station Location During Excavation Activities				
Real Time (PM-10) ²	150 µg/m ³ ¹	Continuous with 15-minute averages	Real Time	Investigate to determine appropriate corrective action, which may include increasing dust control activities, checking and repairing instrumentation, or stopping work. The Contracting Officer's representative will be notified of all corrective action.
High Volume (PM-10) ³	150 µg/m ³	2 days per month (1 workday + 1 weekend day) 1 day - changed conditions	PM-10	Evaluate and modify, as needed, real time action levels, dust control protocols, and corrective action requirements.
¹ Concentrations above background. ² Frequencies listed in the table are for active construction periods. ³ Monitoring during non-work hours (nights and weekends) will be required.				

Table 3-8
OU3 VOCs and PAHs Air Monitoring Requirements

Parameters	Action Level ¹ ppb	Frequency ^{2,3} per location	Analytical Method	Action Required
Background				
Total Volatile Organics		Full work shift and during high volume sampling events	Direct Reading	
PAHs and BTEX ³		2 days per month (1 workday + 1 weekend day) 1 day - changed conditions	EPA T0-13 (PAHs) EPA T0-14 (VOCs)	
Predominate Airborne Pathway - Each Targeted Property During Excavation Activities				
Total Volatile Organics	10,000 2,000 300	Instantaneous 15-minute 8-hours corresponding to peak site operations	Direct Reading Direct Reading Direct Reading	Stop work, notify CO, determine corrective action for vapor control, start work after CO acceptance. Stop work, notify CO, determine corrective action for vapor control, start work after CO acceptance. Evaluate and implement corrective action prior to the start of the next shift. Notify CO, start work after CO acceptance.
PAHs and BTEX ³	BTEX= OEL ⁴ /100 Naphthalene= OEL/100 PAHs ⁵ =CTPV ⁶ /100	2 days per month (1 workday + 1 weekend day) 1 day - changed conditions	T0-13 (PAHs) T0-14 (VOCs)	
¹ Concentrations above background. ² Frequencies listed in the table are for active construction periods. ³ Monitoring during non-work hours (nights and weekends) is required. Objective for control of vapor during non-work hours is to maintain concentrations at or near background levels. ⁴ Occupational Exposure Limit (OEL) - Time Weighted Average. ⁵ Sum all detected PAHs, including Naphthalene. ⁶ Coal Tar Pitch Volatile Threshold Limit Value.				

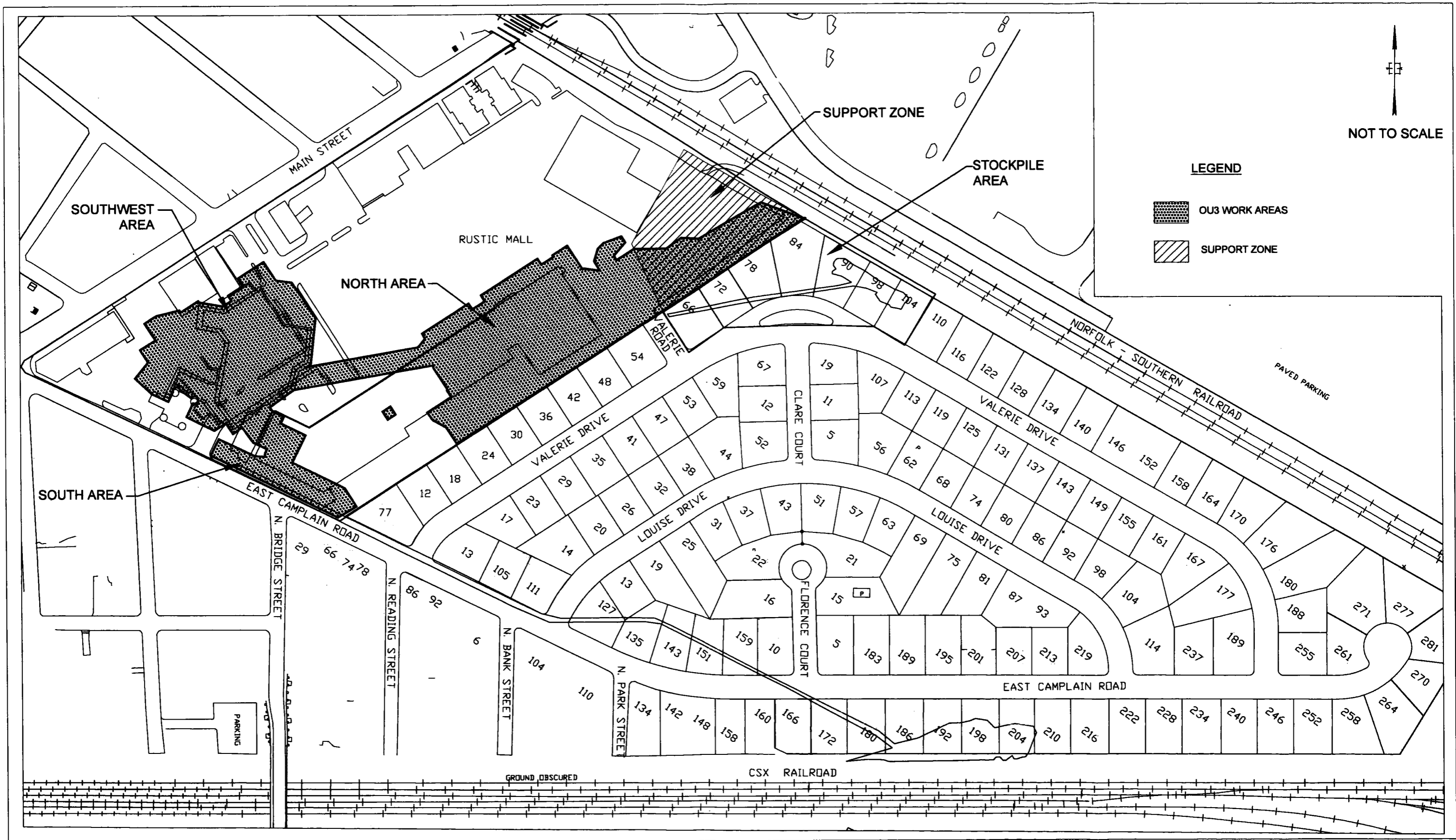
Table 3-9
OU3 Air Monitoring Exceedances

Item	Date	Instrument	Issue	Cause	Corrective Action
Real-Time Air Monitoring Issues					
1	March 2007	Dust Track Aerosol monitor	Elevated Dust levels recorded by instrument.	Railroad maintenance worker's activities created dust that moved across the perimeter fence line and over the site.	Field personnel documented the event in order to identify causes of potential exceedances.
2	June 2007	Dust Track Aerosol monitor and Multi RAE gas meter.	Elevated readings recorded by instruments.	A significant rainstorm overnight contributed to false readings of total dust and total VOCs.	Schedule the sampling event earlier in the quarter as to allow for an alternate date if rain is in the forecast.
Air Sampling Issues					
1	December 2006	PUF Sampler/ TO13	Analytical data show elevated semi VOC results.	Incorrect interpretation of lab data in the field. The up-wind station results were not subtracted from the results of the other stations.	Report was corrected and resubmitted.
2	June 2008	Respirable Particulate Sampler/ PM10	Analytical data show elevated respirable particulate concentration.	Incorrect flow rate calculations, data entry mistakes, and mislabeled timer charts.	Implement a secondary review of spreadsheets to avoid future data entry issues.

Table 10-1
OU3 Key Project Contacts

Name	Title	Organization	Address
Rich Puvogel	Project Manager	EPA	290 Broadway New York, NY 10038
Todd Daniels	Project Manager	USACE KC	601 East 12 th Street Kansas City, MO 64106
Neal Kolb	Resident Engineer	USACE NY	26 Rustic Mall Manville, NJ 08835
Gordon McDonald Ed McClusick Kim Lickfield Joel Czachorowski	Project Manager	SES	2749 Lockport Road Niagara Fall, NY 14305
Michael Popper	Project Manager	CDM	Raritan Plaza I, Raritan Center, Edison, NJ 08818

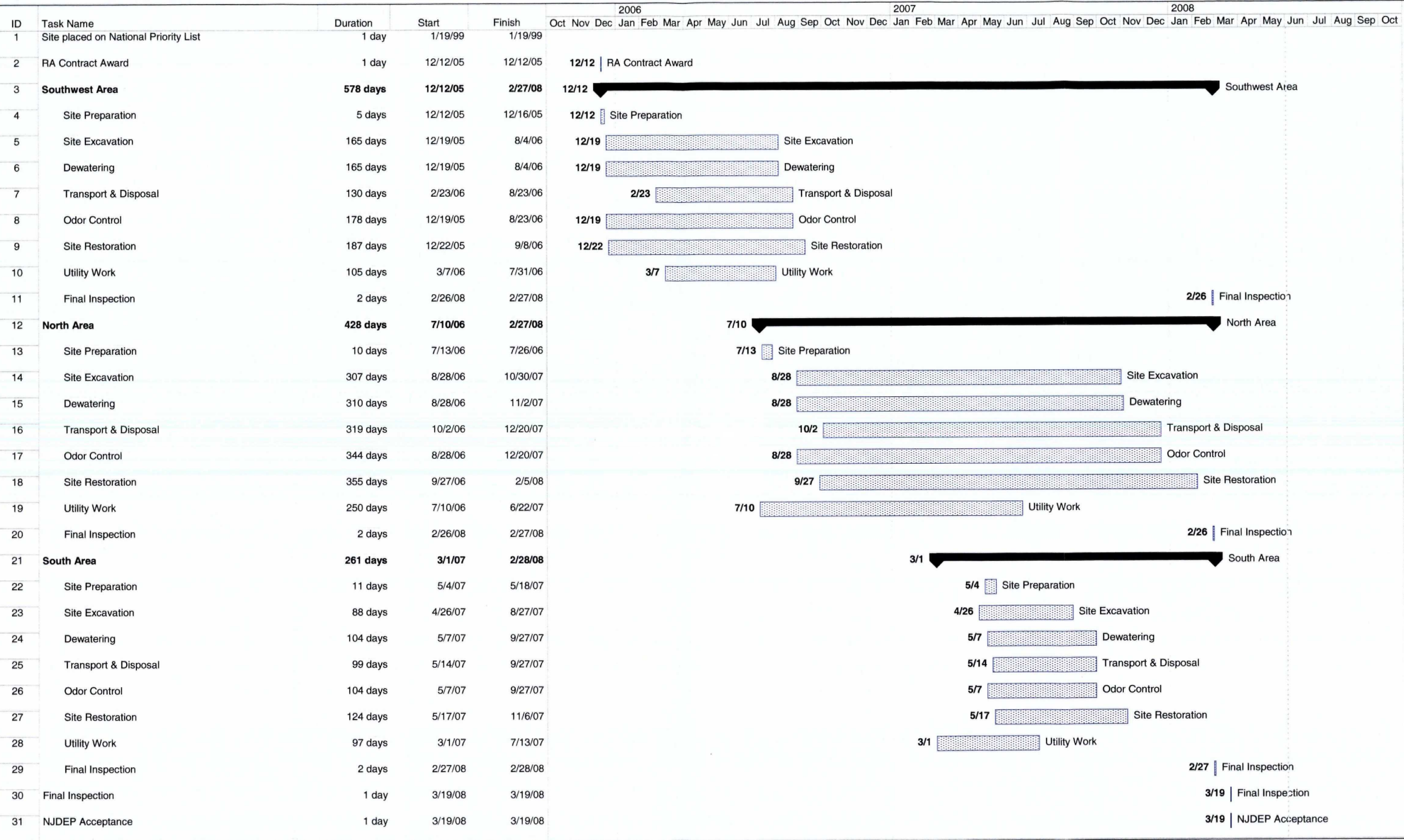
FIGURES



FEDERAL CREOSOTE SUPERFUND SITE
MANVILLE, NEW JERSEY

FIGURE 1-1
GENERAL SITE OVERVIEW
OU3-RUSTIC MALL

Figure 4-1 Chronology of Events



Project Organizational Chart

Federal Creosote Superfund Site

Manville, New Jersey

Effective 7/16/07

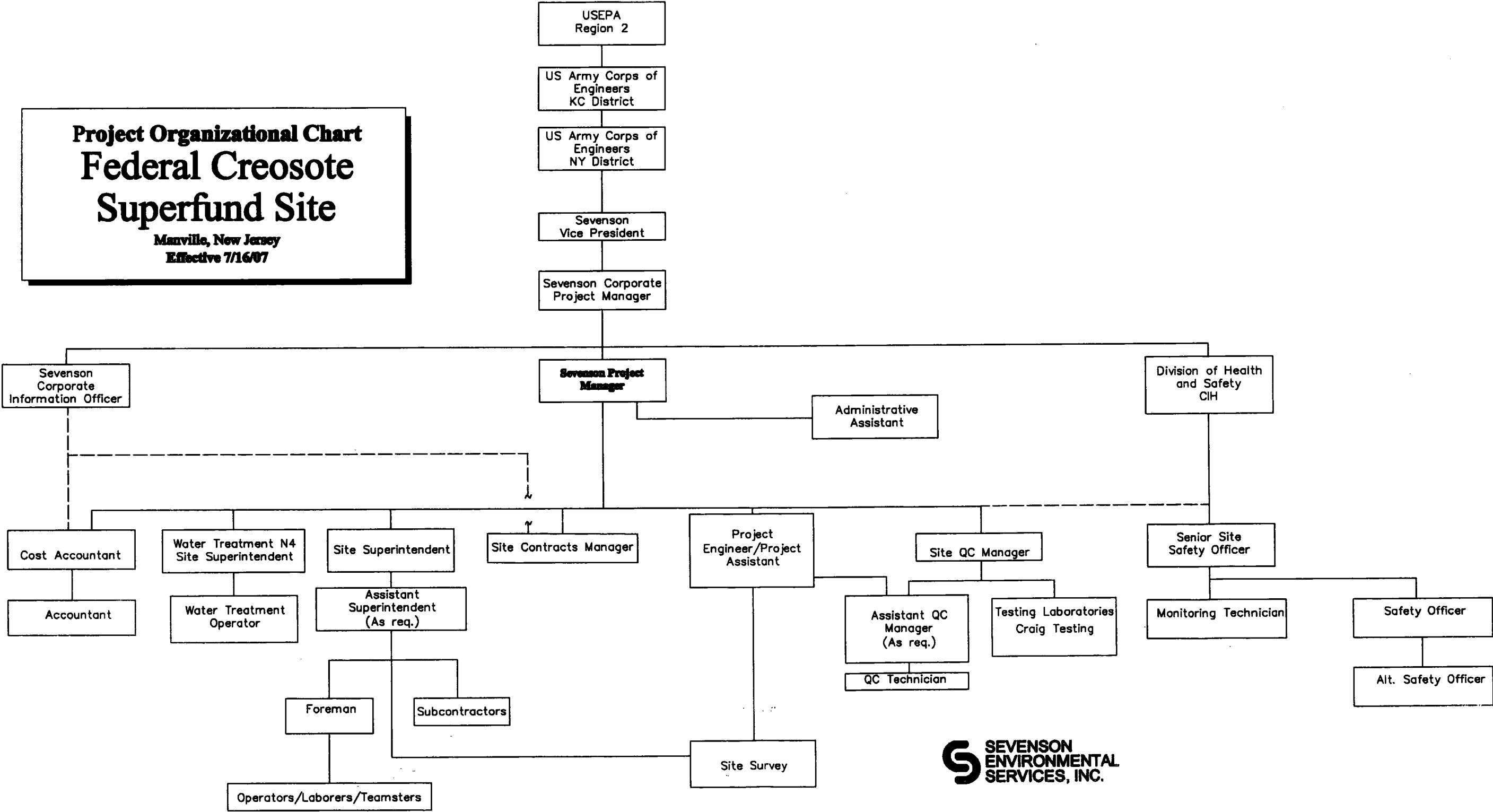


FIGURE 5-1



State of New Jersey

Department of Environmental Protection

Division of Water Quality

P.O. Box 029 Trenton, NJ 08625-0029

Phone: (609) 292-4860

Fax: (609) 984-7938

Bradley M. Campbell
Commissioner

Richard J. Codey
Acting Governor

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Rich Puvogel, Project Manager
USEPA
290 Broadway - 19th Flr
New York, NY 10278

NOV 07 2005

Re: Final Surface Water Minor Mod Permit Action to Extend the Expiration Date
Category: B4B-General Permit GW Petro Prod Cleanup
NJPDES Permit No. NJG0139050
Federal Creosote Superfund Site
Manville Boro, Somerset County

Dear Mr. Puvogel:

As you know you were issued an Individual NJPDES/DSW General Permit Authorization under the General Groundwater Petroleum product Cleanup (B4B) Permit. This individual General Permit Authorization allows for the discharge of treated groundwater through the discharge outfall DSN001D, as specified on your permit authorization page. The Department understands that you are requesting an extension to the expiration date of this authorization from May 31, 2005 to Nov. 30, 2008, through a letter dated May 11, 2005. The Department is hereby granting the extension.

The Department has evaluated available effluent data and flow values. Based on the fact that effluent flow values are of an intermittent nature, flow values are generally decreasing, and the permittee's consistent compliance record with effluent levels below the permit limits or at non-detectable levels, the Department has imposed a twice per month monitoring frequency. Please replace the existing authorization page and Part III in your permit with the enclosed attachment. All other terms and conditions of your existing permit are unchanged and remain in effect. The Department considers this extension of the expiration date to be a minor modification of the permit in accordance with N.J.A.C. 7:14A-16.2.

All monitoring shall be conducted in accordance with 1) the Department's "Field Sampling Procedures Manual" applicable at the time of sampling (N.J.A.C. 7:14A-6.5(b) 4), and/or 2) the method approved by the Department in Part IV of the permit. The Field Sampling Procedures Manual is available through Maps and Publications Sales Office; Bureau of Revenue, PO Box 417, Trenton, New Jersey 08625, at (609) 777-1038.

If you have questions or comments regarding the final action, please contact Nazia Mughis-Sohrawardy at (609) 292-4860.

Sincerely,

Pilar Patterson, Chief

Bureau of Point Source Permitting Region 2

Enclosures

cc: Permit Distribution List, Masterfile #: 60255; PI #: 92460

New Jersey Department of Environmental Protection



Bureau of Point Source Permitting – Region 2
Division of Water Quality
PO Box 029
Trenton, NJ 08625-0029
(609) 292- 4860

AUTHORIZATION TO DISCHARGE
B4B –General Permit GW Petro Prod Cleanup

Facility Name: Federal Creosote Superfund Site

PI ID #: 92460

Facility Address:
172-216 E Camplain Road
Manville, NJ 08835

NJPDES #: NJG0139050

SIC Code: 2491

Type of Activity: Surface Water GPA Mod

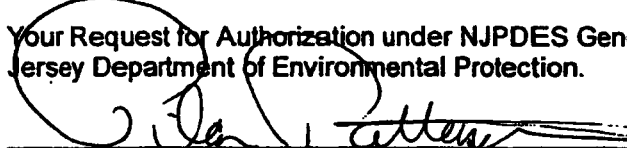
Owner:
USEPA
290 Broadway - 19TH FLR
New York, NY 10278

Operating Entity:
USEPA
290 Broadway – 19th Floor
New York, NY 10278

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
Authorization under the B4B	11/25/2003	12/1/2003	5/31/2005
Minor Modification to B4B to extend expiration date	5/20/2005	6/1/2005	11/30/2008

Outfall Number	Latitude	Longitude	Receiving Stream	Classification
DSN 001D	40° 32' 28 "	74° 34' 42 "	Millstone River	FW2-NT

Your Request for Authorization under NJPDES General Permit No. NJ0102709 has been approved by the New Jersey Department of Environmental Protection.


Pilar Patterson, Chief
Bureau of Point Source Permitting – Region 2
Division of Water Quality
New Jersey Department of Environmental Protection

Date: 5/20/2005

PART III

LIMITS AND MONITORING REQUIREMENTS

MONITORED LOCATION:

001D Remediation effluent

RECEIVING STREAM:

Millstone River

STREAM CLASSIFICATION:

FW2-NT(C2)

DISCHARGE CATEGORY(IES):

B4B - General Permit GW Petro Prod
Cleanup

Location Description

The facility is authorized to discharge treated dewatered groundwater into the Millstone River, classified as FW2-NT(C2), via a storm sewer at Lat. 40d32m28s & Lon. 74d34m42s. Effluent sampling shall be performed after all treatment steps but prior to discharge. Influent sampling shall be performed prior to any treatment.

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final

PHASE Start Date:

06/01/2005

PHASE End Date:

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GPD	*****	*****	*****	*****	2/Month	Metered
January thru December	QL	***	***		***	***	***			
pH	Effluent Gross Value	*****	*****	*****	6.0 Monthly Minimum	*****	9.0 Monthly Maximum	SU	2/Month	Grab
January thru December	QL	***	***		***	***	***			
Solids, Total Suspended	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	40 Daily Maximum	MG/L	2/Month	Grab
January thru December	QL	***	***		***	***	***			
Petroleum Hydrocarbons	Effluent Gross Value	*****	*****	*****	*****	10 Monthly Average	15 Daily Maximum	MG/L	2/Month	Grab
January thru December	QL	***	***		***	***	***			
Carbon, Tot Organic (TOC)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	20 Daily Maximum	MG/L	2/Month	Grab
January thru December	QL	***	***		***	***	***			
Chromium, Total (as Cr)	Effluent Gross Value	*****	*****	*****	*****	50 Monthly Average	100 Daily Maximum	UG/L	2/Month	Grab
January thru December	RQL	***	***		***	10	10			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final PHASE Start Date: 06/01/2005 PHASE End Date:

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Copper, Total (as Cu)	Effluent Gross Value	*****	*****	*****	*****	50 Monthly Average	100 Daily Maximum	UG/L	2/Month	Grab
	January thru December	***	***		***	10	10			
Nickel, Total (as Ni)	Effluent Gross Value	*****	*****	*****	*****	72 Monthly Average	144 Daily Maximum	UG/L	2/Month	Grab
	January thru December	***	***		***	10	10			
Lead, Total Recoverable	Effluent Gross Value	*****	*****	*****	*****	37 Monthly Average	79 Daily Maximum	UG/L	2/Month	Grab
	January thru December	***	***		***	10	10			
Fluoranthene	Effluent Gross Value	*****	*****	*****	*****	25 Monthly Average	68 Daily Maximum	UG/L	2/Month	Grab
	January thru December	***	***		***	10	10			
Fluorene	Effluent Gross Value	*****	*****	*****	*****	22 Monthly Average	59 Daily Maximum	UG/L	2/Month	Grab
	January thru December	***	***		***	10	10			
Phenanthrene	Effluent Gross Value	*****	*****	*****	*****	22 Monthly Average	59 Daily Maximum	UG/L	2/Month	Grab
	January thru December	***	***		***	10	10			
Pyrene	Effluent Gross Value	*****	*****	*****	*****	25 Monthly Average	67 Daily Maximum	UG/L	2/Month	Grab
	January thru December	***	***		***	20	20			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements**PHASE: Final****PHASE Start Date: 06/01/2005****PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Benzo(a)anthracene	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	10 Daily Maximum	UG/L	2/Month	Grab
January thru December	RQL	***	***		***	***	10			
Naphthalene	Effluent Gross Value	*****	*****	*****	*****	22 Monthly Average	59 Daily Maximum	UG/L	2/Month	Grab
January thru December	RQL	***	***		***	8	8			
Methyl tert-butyl Ether	Raw Sew/influent	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	2/Month	Grab
January thru December	QL	***	***		***	***	***			
Methyl tert-butyl Ether	Effluent Gross Value	*****	*****	*****	*****	70 Monthly Average	REPORT Daily Maximum	UG/L	2/Month	Grab
January thru December	QL	***	***		***	***	***			
Methyl tert-butyl Ether	Percent Removal	*****	*****	*****	85 Monthly Av Minimum	*****	*****	PERCENT	2/Month	Calculated
January thru December	QL	***	***		***	***	***			
Benzene	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	7 Daily Maximum	UG/L	2/Month	Grab
January thru December	RQL	***	***		***	7	7			
Tetrachloroethylene	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	16 Daily Maximum	UG/L	2/Month	Grab
January thru December	QL	***	***		***	***	***			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements**PHASE:** Final**PHASE Start Date:** 06/01/2005**PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Tertiary Butyl Alcohol (TBA)	Raw Sew/influent	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	2/Month	Grab
	January thru December	QL	QL		***	***	***			
Tertiary Butyl Alcohol (TBA)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	2/Month	Grab
	January thru December	QL	QL		***	***	***			
2,4-Dimethylphenol	Effluent Gross Value	*****	*****	*****	*****	18 Monthly Average	36 Daily Maximum	UG/L	2/Month	Grab
	January thru December	QL	QL		***	***	***			
Phenol Single Compound	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	26 Daily Maximum	UG/L	2/Month	Grab
	January thru December	RQL	RQL		***	10	10			



State of New Jersey

Department of Environmental Protection
Division of Water Quality
P.O. Box 029 Trenton, NJ 08625-0029
Phone: (609) 292-4860
Fax: (609) 984-7938

Bradley M. Campbell
Commissioner

am... E. McGreevey
Governor

CERTIFIED MAIL RETURN RECEIPT REQUESTED

DEC 04 2003

Rich Puvogel, Project Manager
USEPA
290 Broadway
19th Floor
New York, NY 10278

Re: Surface Water GPA Renewal
Category: B4B -General Permit GW Petro Prod Cleanup
NJPDES Permit No. NJG0139050
Federal Creosote Superfund Site
Manville Boro, Somerset County

Dear Mr. Puvogel:

Enclosed is an Individual NJPDES/DSW General Permit Authorization under the General Groundwater Petroleum Product Cleanup (B4B) Permit which was issued by the Department on October 31, 2003. This General Permit Authorization is issued in accordance with the New Jersey Pollutant Discharge Elimination System (NJPDES) Regulations N.J.A.C. 7:14A-1 et seq.

This individual General Permit Authorization allows for the discharge of treated groundwater through the discharge outfall specified on your permit authorization page. Violation of any condition of this authorization may subject the permittee to significant penalties.

The Department recognizes that the discharge is a dewatering discharge that is expected to occur for approximately eighteen months. Please note that because this is a dewatering discharge, you are required to sample twice per week for all the parameters specified in Part III. Due to the short term nature of the discharge as well as the fact that any metals present were at average levels below the remediation standards at N.J.A.C. 7:14A-12, Appendix B, the Department has not imposed the chronic whole effluent toxicity requirements at this time. The Department reserves the right to impose such requirements in a future permit action if deemed necessary.

The enclosed Authorization to discharge groundwater under the General Permit shall expire on November 30, 2008 or the expiration date of the Individual Authorization Page. Applications for renewal of this Authorization must be submitted to the Department at least 180 days prior to expiration of the Individual Authorization pursuant to N.J.A.C. 7:14A-4.2(e)3.

A copy of the Department's most recently revised Discharge Monitoring Report (DMR) Instruction Manual is available if needed by contacting the Bureau of Point Source Permitting. Please note that if there is a discrepancy between the General Permit Authorization and the DMR Instruction Manual, the General Permit Authorization always takes precedence.

All monitoring shall be conducted in accordance with 1) the Department's "Field Sampling Procedures Manual" applicable at the time of sampling (N.J.A.C. 7:14A-6.5(b)4), and/or 2) the method approved by the Department in Part IV of the permit. The Field Sampling Procedures Manual is available through Maps and Publications Sales Office; Bureau of Revenue, PO Box 417, Trenton, New Jersey 08625, at (609) 777-1038.

If you have questions or comments regarding the final action, please contact Susan Rosenwinkel at (609) 292-4860.

Sincerely,



Pilar Patterson, Chief

Bureau of Point Source Permitting - Region 2

Enclosures

c: Permit Distribution List

Masterfile #: 60255; PI #: 92460

Table of Contents

This final general permit authorization contains the items listed below:

- 1. Cover Letter**
- 2. Table of Contents**
- 3. NJPDES Permit Authorization Page for NJG0139050**
- 4. NJPDES Permit Authorization Page for Master General Permit NJPDES No. NJ0102709**
- 5. USGS Map**
- 6. Site Map**
- 7. Part I – General Requirements: NJPDES**
- 8. Part II – General Requirements: Discharge Categories**
- 9. Part III – Limits and Monitoring Requirements**
- 10. Part IV – Specific Requirements: Narrative**

New Jersey Department of Environmental Protection



Bureau of Point Source Permitting – Region 2
Division of Water Quality
PO Box 029
Trenton, NJ 08625-0029
(609) 292-4860

AUTHORIZATION TO DISCHARGE
B4B -General Permit GW Petro Prod Cleanup

Facility Name: Federal Creosote Superfund Site

PI ID #: 92460

Facility Address:
172-216 E Camplain Road
Manville, NJ 08835

NJPDES #: NJG0139050

SIC Code: 2491

Type of Activity: Surface Water GPA Renewal

Owner:

USEPA
290 Broadway
19TH Floor
New York, NY 10278

Operating Entity:

USEPA
290 Broadway
19TH Floor
New York, NY 10278

Issuance Date:

11/25/2003

Effective Date:

12/1/2003

Expiration Date:

5/31/2005

Outfall Number	Latitude	Longitude	Receiving Stream	Classification
DSN 001D	40° 32' 28"	74° 34' 42"	Millstone River	FW2-NT

Your Request for Authorization under NJPDES General Permit No. NJ0102709 has been approved by the New Jersey Department of Environmental Protection.


Pilar Patterson, Chief

Bureau of Point Source Permitting – Region 2
Division of Water Quality
New Jersey Department of Environmental Protection

Date: November 25, 2003



NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

The New Jersey Department of Environmental Protection hereby grants you a NJPDES permit for the facility/activity named in this document. This permit is the regulatory mechanism used by the Department to help ensure your discharge will not harm the environment. By complying with the terms and conditions specified, you are assuming an important role in protecting New Jersey's valuable water resources. Your acceptance of this permit is an agreement to conform with all of its provisions when constructing, installing, modifying, or operating any facility for the collection, treatment, or discharge of pollutants to waters of the state. If you have any questions about this document, please feel free to contact the Department representative listed in the permit cover letter. Your cooperation in helping us protect and safeguard our state's environment is appreciated.

Permit Number: NJ0102709

Final: Surface Water Master General Permit Renewal

Permittee:

NJPDES Master General Permit Program Interest
Category B4B
Per Individual Notice of Authorization
Division of Water Quality
P.O. Box 029, 401 East State Street
Trenton, NJ 08625

Co-Permittee:

Property Owner:

NJPDES Master General Permit Program Interest
Category B4B
Per Individual Notice of Authorization
Division of Water Quality
P.O. Box 029, 401 East State Street
Trenton, NJ 08625

Location Of Activity:

NJPDES Master General Permit Program Interest
Category B4B
Per Individual Notice of Authorization
Division of Water Quality
P.O. Box 029, 401 East State Street
Trenton, NJ 08625

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
B4B -General Permit GW Petro Prod Cleanup	10/31/2003	12/1/2003	11/30/2008

By Authority of:
Commissioner's Office


DEP AUTHORIZATION

Pilar Patterson, Chief
Bureau of Point Source Permitting - Region 2
Division of Water Quality


DEP AUTHORIZATION

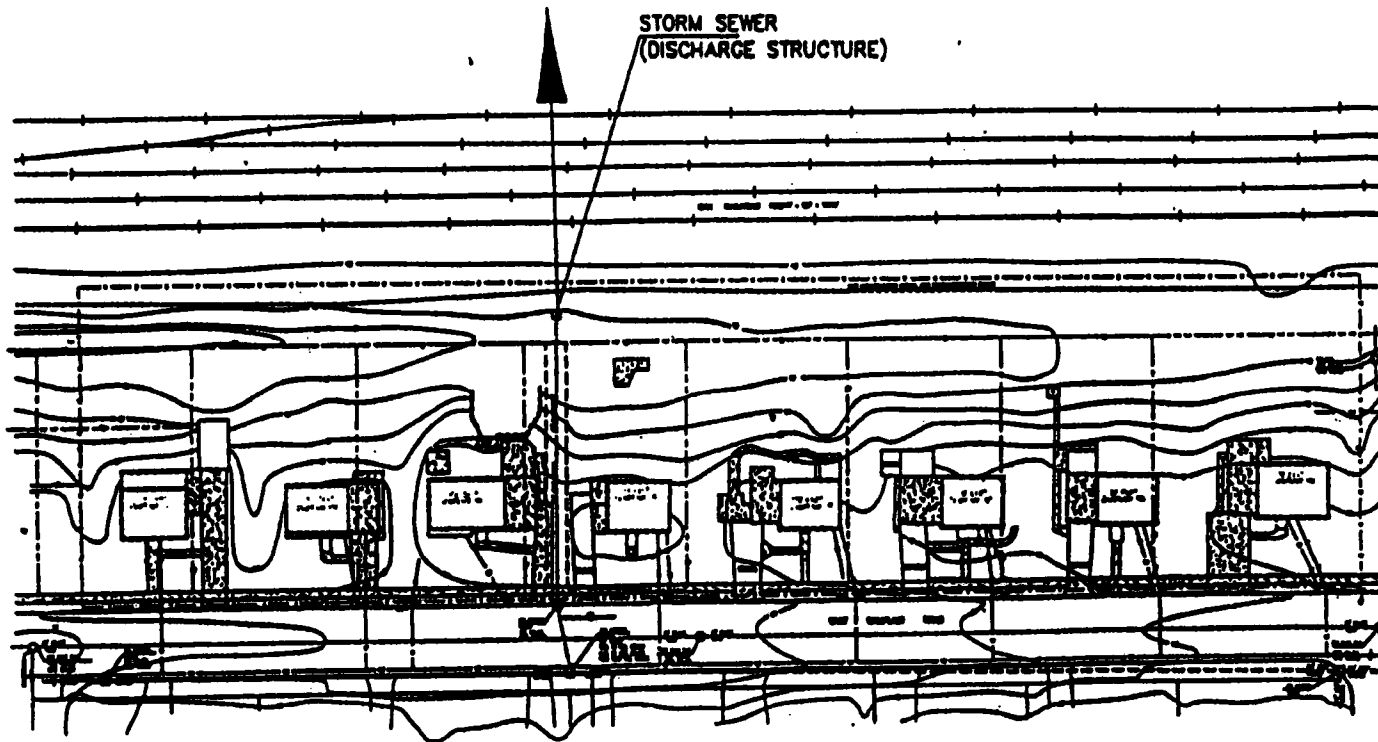
Howard Tompkins, Chief
Bureau of Point Source Permitting - Region 1
Division of Water Quality

(Terms, conditions and provisions attached hereto)

Division of Water Quality

TO DSN001
(AT MILLSTONE RIVER)

STORM SEWER
(DISCHARGE STRUCTURE)



LEGEND
--- DISTINGUISH FORCE/
CONSTRUCTION LIMITS

SOURCE:
CON FEDERAL PROGRAMS
CORPORATION,
PHO-CRISTALINE, SEPTEMBER 2000.
"EXISTING SITE CONDITIONS"



FEDERAL, CRISTALINE SUPERFUND SITE
MANUAL, NEW JERSEY
H.M.P.O.E.S./DSW-CATEGORY B4B OPPG FOR

SITE PLAN

BBL BARRY, BROWN & LEE, INC.
engineers & architects

PLAN
A

PART I GENERAL REQUIREMENTS: NJPDES

A. General Requirements of all NJPDES Permits

1. Requirements Incorporated by Reference

- a. The permittee shall comply with all conditions set forth in this permit and with all the applicable requirements incorporated into this permit by reference. The permittee is required to comply with the regulations, including those cited in paragraphs b. through e. following, which are in effect as of the effective date of the final permit.
- b. General Conditions
 - Penalties for Violations N.J.A.C. 7:14-8.1 et seq.
 - Incorporation by Reference N.J.A.C. 7:14A-2.3
 - Toxic Pollutants N.J.A.C. 7:14A-6.2(a)4i
 - Duty to Comply N.J.A.C. 7:14A-6.2(a)1 & 4
 - Duty to Mitigate N.J.A.C. 7:14A-6.2(a)5 & 11
 - Inspection and Entry N.J.A.C. 7:14A-2.11(e)
 - Enforcement Action N.J.A.C. 7:14A-2.9
 - Duty to Reapply N.J.A.C. 7:14A-4.2(e)3
 - Signatory Requirements for Applications and Reports N.J.A.C. 7:14A-4.9
 - Effect of Permit/Other Laws N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c)
 - Severability N.J.A.C. 7:14A-2.2
 - Administrative Continuation of Permits N.J.A.C. 7:14A-2.8
 - Permit Actions N.J.A.C. 7:14A-2.7(c)
 - Reopener Clause N.J.A.C. 7:14A-6.2(a)10
 - Permit Duration and Renewal N.J.A.C. 7:14A-2.7(a) & (b)
 - Consolidation of Permit Process N.J.A.C. 7:14A-15.5
 - Confidentiality N.J.A.C. 7:14A-18.2 & 2.11(g)
 - Fee Schedule N.J.A.C. 7:14A-3.1
 - Treatment Works Approval N.J.A.C. 7:14A-22 & 23
- c. Operation And Maintenance
 - Need to Halt or Reduce not a Defense N.J.A.C. 7:14A-2.9(b)
 - Proper Operation and Maintenance N.J.A.C. 7:14A-6.12
- d. Monitoring And Records
 - Monitoring N.J.A.C. 7:14A-6.5
 - Recordkeeping N.J.A.C. 7:14A-6.6
 - Signatory Requirements for Monitoring Reports N.J.A.C. 7:14A-6.9
- e. Reporting Requirements
 - Planned Changes N.J.A.C. 7:14A-6.7
 - Reporting of Monitoring Results N.J.A.C. 7:14A-6.8
 - Noncompliance Reporting
 - Hotline/Two Hour & Twenty-four Hour Reporting N.J.A.C. 7:14A-6.10 & 6.8(h)
 - Written Reporting N.J.A.C. 7:14A-6.10(c) & (d)
 - N.J.A.C. 7:14A-6.10(e) & (f) & 6.8(h)
 - Duty to Provide Information N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
 - Schedules of Compliance N.J.A.C. 7:14A-6.4
 - Transfer N.J.A.C. 7:14A-6.2(a)8 & 16.2

PART II

GENERAL REQUIREMENTS: DISCHARGE CATEGORIES

A. Additional Requirements Incorporated By Reference

1. Requirements for Discharges to Surface Waters

- a. In addition to conditions in Part I of this permit, the conditions in this section are applicable to activities at the permitted location and are incorporated by reference. The permittee is required to comply with the regulations which are in effect as of the effective date of the final permit.
 - i. Surface Water Quality Standards N.J.A.C. 7:9B-1

B. General Conditions

1. Scope

- a. The issuance of this permit shall not be considered as a waiver of any applicable federal, state, and local rules, regulations and ordinances.

2. Permit Renewal Requirement

- a. Permit conditions remain in effect and enforceable until and unless the permit is modified, renewed or revoked by the Department.
- b. Submit a complete permit renewal application: 180 days before the the Expiration Date.

3. Notification of Non-Compliance

- a. The permittee shall notify the Department of all non-compliance when required in accordance with N.J.A.C. 7:14A-6.10 by contacting the DEP HOTLINE at 1-877-WARNDEP (1-877-927-6337).
- b. The permittee shall submit a written report as required by N.J.A.C. 7:14A-6.10 within five days.

4. Notification of Changes

- a. The permittee shall give written notification to the Department of any planned physical or operational alterations or additions to the permitted facility when the alteration is expected to result in a significant change in the permittee's discharge and/or residuals use or disposal practices including the cessation of discharge in accordance with N.J.A.C. 7:14A-6.7.
- b. Prior to any change in ownership, the current permittee shall comply with the requirements of N.J.A.C. 7:14A-16.2, pertaining to the notification of change in ownership.

5. Access to Information

- a. The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to enter upon a person's premises, for purposes of inspection, and to access / copy any records that must be kept under the conditions of this permit.

6. Operator Certification

- a. Pursuant to N.J.A.C. 7:10A-1.1 et seq. every wastewater system not exempt pursuant to N.J.A.C. 7:10A-1.1(b) requires a licensed operator. The operator of a system shall meet the Department's requirements pursuant to N.J.A.C. 7:10A-1.1 and any amendments. The name of the proposed operator, where required shall be submitted to the Department at the address below, in order that his/her qualifications may be determined prior to initiating operation of the treatment works.

- i. Notifications shall be submitted to:
NJDEP
Examination and Licensing Unit
P.O. Box 417
Trenton, New Jersey 08625
(609)777-1012

- b. The permittee shall notify the Department of any changes in licensed operator within two weeks of the change.

7. Operation Restrictions

- a. The operation of a waste treatment or disposal facility shall at no time create: (a) a discharge, except as authorized by the Department in the manner and location specified in Part III of this permit; (b) any discharge to the waters of the state or any standing or ponded condition for water or waste, except as specifically authorized by a valid NJPDES permit.

8. Residuals Management

- a. The permittee shall comply with land-based sludge management criteria and shall conform with the requirements for the management of residuals and grit and screenings under N.J.A.C. 7:14A-6.15(a), which includes:
- i. Standards for the Use or Disposal of Residual, N.J.A.C. 7:14A-20;
 - ii. Section 405 of the Federal Act governing the disposal of sludge from treatment works treating domestic sewage;
 - iii. The Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., and the Solid Waste Management Rules, N.J.A.C. 7:26;
 - iv. The Sludge Quality Assurance Regulations, N.J.A.C. 7:14C;
 - v. The Statewide Sludge Management Plan promulgated pursuant to the Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq., and the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq.; and
 - vi. The provisions concerning disposal of sewage sludge and septage in sanitary landfills set forth at N.J.S.A. 13:1E-42 and the Statewide Sludge Management Plan.
 - vii. Residual that is disposed in a municipal solid waste landfill unit shall meet the requirements in 40 CFR Part 258 and/or N.J.A.C. 7:26 concerning the quality of residual disposed in a municipal solid waste landfill unit. (That is, passes the Toxicity Characteristic Leaching Procedure and does not contain "free liquids" as defined at N.J.A.C. 7:14A-1.2.)
- b. If any applicable standard for residual use or disposal is promulgated under section 405(d) of the Federal Act and Sections 4 and 6 of the State Act and that standard is more stringent than any limitation on the pollutant or practice in the permit, the Department may modify or revoke and reissue the permit to conform to the standard for residual use or disposal.

- c. The permittee shall make provisions for storage, or some other approved alternative management strategy, for anticipated downtimes at a primary residual management alternative. The permittee shall not be permitted to store residual beyond the capacity of the structural treatment and storage components of the treatment works. N.J.A.C. 7:14A-20.8(a) and N.J.A.C. 7:26 provide for the temporary storage of residuals for periods not exceeding six months, provided such storage does not cause pollutants to enter surface or ground waters of the State. The storage of residual for more than six months is not authorized under this permit. However, this prohibition does not apply to residual that remains on the land for longer than six months when the person who prepares the residual demonstrates that the land on which the residual remains is not a surface disposal site or landfill. The demonstration shall explain why residual must remain on the land for longer than six months prior to final use or disposal, discuss the approximate time period during which the residual shall be used or disposed and provide documentation of ultimate residual management arrangements. Said demonstration shall be in writing, be kept on file by the person who prepares residual, and submitted to the Department upon request.
- d. The permittee shall comply with the appropriate adopted District Solid Waste or Sludge Management Plan (which by definition in N.J.A.C. 7:14A-1.2 includes Generator Sludge Management Plans), unless otherwise specifically exempted by the Department.
- e. The preparer must notify and provide information necessary to comply with the N.J.A.C. 7:14A-20 land application requirements to the person who applies bulk residual to the land. This shall include, but not be limited to, the applicable recordkeeping requirements and certification statements of 40 CFR 503.17 as referenced at N.J.A.C. 7:14A-20.7(j).
- f. The preparer who provides biosolids to another person who further prepares the biosolids for application to the land must provide this person with notification and information necessary to comply with the N.J.A.C. 7:14A-20 land application requirements.
- g. Any person who prepares bulk residual in New Jersey that is applied to land in a State other than New Jersey shall comply with the requirement at N.J.A.C. 7:14A-20.7(b)1.ix and/or 20.7(b)1.x, as applicable, to provide written notice to the Department and to the permitting authority for the State in which the bulk residual is proposed to be applied.

PAK III

LIMITS AND MONITORING REQUIREMENTS

A. 001D REMEDIATION EFFLUENT

Location Description

The facility is authorized to discharge treated dewatered groundwater into the Millstone River, classified as FW2-NT(C2), via a storm sewer at Lat. 40°32'28" & Lon. 74°34'42". Effluent sampling shall be performed after all treatment steps but prior to discharge. Influent sampling shall be performed prior to any treatment.

Discharge Categories

General Permit GW Petro Prod Cleanup

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase	Quantification Limit
✓ Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT GPD	Monthly Average	2 / Week	Metered	January thru December	Final	
✓ Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT GPD	Daily Maximum	2 / Week	Metered	January thru December	Final	
✓ pH	Effluent Gross Value	6.0 SU	Monthly Minimum	2 / Week	Grab	January thru December	Final	
✓ pH	Effluent Gross Value	9.0 SU	Monthly Maximum	2 / Week	Grab	January thru December	Final	
✓ Solids, Total Suspended	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Solids, Total Suspended	Effluent Gross Value	40 MG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ Petroleum Hydrocarbons	Effluent Gross Value	10 MG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Petroleum Hydrocarbons	Effluent Gross Value	15 MG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ Carbon, Tot Organic (TOC)	Effluent Gross Value	REPORT MG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Carbon, Tot Organic (TOC)	Effluent Gross Value	20 MG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ Chromium, Total (as Cr)	Effluent Gross Value	50 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Chromium, Total (as Cr)	Effluent Gross Value	100 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Copper, Total (as Cu)	Effluent Gross Value	50 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase	Quantification Limit
✓ Copper, Total (as Cu)	Effluent Gross Value	100 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Nickel, Total (as Ni)	Effluent Gross Value	72 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Nickel, Total (as Ni)	Effluent Gross Value	144 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Lead, Total Recoverable	Effluent Gross Value	37 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Lead, Total Recoverable	Effluent Gross Value	79 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Fluoranthene	Effluent Gross Value	25 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Fluoranthene	Effluent Gross Value	68 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Fluorene	Effluent Gross Value	22 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Fluorene	Effluent Gross Value	59 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Phenanthrene	Effluent Gross Value	22 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Phenanthrene	Effluent Gross Value	59 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Pyrene	Effluent Gross Value	25 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	20 Rec Quant Level
✓ Pyrene	Effluent Gross Value	67 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	20 Rec Quant Level
✓ Benzo(a)anthracene	Effluent Gross Value	REPORT UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Benzo(a)anthracene	Effluent Gross Value	10 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Naphthalene	Effluent Gross Value	22 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	8 Rec Quant Level
✓ Naphthalene	Effluent Gross Value	59 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	8 Rec Quant Level
✓ Methyl tert-butyl Ether	Raw Sew/influent	REPORT UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Methyl tert-butyl Ether	Raw Sew/influent	REPORT UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	Limit	Statistical Base	Sampling Frequency	Sample Type	Monitoring Period	Phase	Quantification Limit
✓ Methyl tert-butyl Ether	Effluent Gross Value	70 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Methyl tert-butyl Ether	Effluent Gross Value	REPORT UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ Methyl tert-butyl Ether	Percent Removal	85 PERCENT	Monthly Av Minimum	2 / Week	Calculated	January thru December	Final	
✓ Benzene	Effluent Gross Value	REPORT UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	7 Rec Quant Level
✓ Benzene	Effluent Gross Value	7 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	7 Rec Quant Level
✓ Tetrachloroethylene	Effluent Gross Value	REPORT UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Tetrachloroethylene	Effluent Gross Value	16 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ Tertiary Butyl Alcohol (TBA)	Raw Sew/influent	REPORT UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Tertiary Butyl Alcohol (TBA)	Raw Sew/influent	REPORT UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ Tertiary Butyl Alcohol (TBA)	Effluent Gross Value	REPORT UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ Tertiary Butyl Alcohol (TBA)	Effluent Gross Value	REPORT UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ 2,4-Dimethylphenol	Effluent Gross Value	18 UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	
✓ 2,4-Dimethylphenol	Effluent Gross Value	36 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	
✓ Phenol Single Compound	Effluent Gross Value	REPORT UG/L	Monthly Average	2 / Week	Grab	January thru December	Final	10 Rec Quant Level
✓ Phenol Single Compound	Effluent Gross Value	26 UG/L	Daily Maximum	2 / Week	Grab	January thru December	Final	10 Rec Quant Level

PART IV

SPECIFIC REQUIREMENTS: NARRATIVE

General Permit GW Petro Prod Cleanup

A. MONITORING REQUIREMENTS

1. Standard Monitoring Requirements

- a. Each analysis required by this permit shall be performed by a New Jersey Certified Laboratory that is certified to perform that analysis.
- b. The Permittee shall perform all water/wastewater analyses in accordance with the analytical test procedures specified in 40 CFR 136 unless other test procedures have been approved by the Department in writing or as otherwise specified in the permit.
- c. The permittee shall utilize analytical methods that will ensure compliance with the Quantification Levels (QLs) listed in PART III. If the permittee and/or contract laboratory determines that the QLs achieved for any pollutant(s) generally will not be as sensitive as the QLs specified in PART III, the permittee must submit a justification of such to the appropriate Bureau of Point Source Permitting, as listed in this permit authorization.
- d. All sampling shall be conducted in accordance with the Department's Field Sampling Procedures Manual; or an alternate method approved by the Department in writing.
- e. All monitoring shall be conducted as specified in Part III.
- f. All sample frequencies expressed in Part III are minimum requirements. However, if additional samples are taken, analytical results shall be reported as appropriate.
- g. Analysis for total recoverable lead shall follow the sample preparation procedures contained in the Method 200.2 "Sample Preparation Procedure for Spectrochemical Determination of Total Recoverable Elements".
- h. The permittee shall use EPA Method 624 in analyzing methyl tert butyl ether (MTBE) and tertiary butyl alcohol (TBA).
- i. Influent shall be sampled at a point prior to any treatment by the permittee's treatment units.
- j. If the effluent MTBE level is less than or equal to 70 ug/L during a calendar month, the 85% MTBE minimum percent removal limitation does not apply. If the MTBE minimum percent removal limitation does not apply, the permittee shall report "Code =N" on its monitoring report form under MTBE percent removal. If the daily maximum effluent MTBE level is greater than 70 ug/L for a calendar month, an 85% MTBE minimum percent removal limitation does apply. The permittee shall report the minimum percent removal value achieved during that calendar month on its monitoring report form under MTBE minimum percent removal.
- k. Flow shall be measured using a meter unless specified otherwise in the individual authorization.

B. RECORDKEEPING

1. Standard Recordkeeping Requirements

- a. The permittee shall retain records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports, and all data used to complete the application for this permit.

- b. Records of monitoring information shall include the date, locations and time of sampling or measurements, the individual who performed the sampling or measurements, the date the samples were collected, the date the samples were analyzed, the individual who performed the analysis, the analytical method used, and the results.
- c. The permittee shall retain copies of all reports required by a NJPDES permit and records of all data used to complete the application for a NJPDES permit for a period of at least 5 years unless otherwise required by 40 CFR Part 503.

C. REPORTING

1. Standard Reporting Requirements

- a. The permittee shall submit all required monitoring results to the DEP on the forms provided to the following addresses:
 - i. NJDEP
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, New Jersey 08625
- b. If requested by the Water Compliance and Enforcement Bureau, please send the information requested to the following address:
 - i. Northern Bureau of Water Compliance and Enforcement
1259 Route 46 East
Parsippany, NJ 07054-4191
(Counties of Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex and Warren)
 - ii. Southern Bureau of Water Compliance and Enforcement
One Port Center
2 Riverside Drive, Suite 201
(Counties of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester and Salem)
 - iii. Central Bureau of Water Compliance and Enforcement
300 Horizon Center, P.O. Box 407
Trenton, NJ 08625-0407
(Counties of Mercer, Middlesex, Monmouth, Ocean and Union)
- c. For submittal of paper monitoring report forms:
 - i. All monitoring reports shall be signed by the highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility in accordance with N.J.A.C. 7:14A-6.9.
 - ii. The highest ranking official may delegate responsibility to sign in accordance with NJAC 7:14A-6.9(c).
- d. Monitoring reports shall be completed in accordance with the current Discharge Monitoring Report Manual and any updates.
- e. If monitoring for a parameter is not required for that monitoring period, the permittee is required to report "CODE=N" on that Monitoring Report Form.
- f. For intermittent discharges, the permittee shall obtain a sample during at least one of the discharge events occurring during a monitoring period. Place a check mark in the "No discharge this monitoring period" box on the monitoring report submittal form only if there are no discharge events during the entire monitoring period.

D. OPERATIONAL ISSUES

1. Operational Requirements

- a. The treatment works shall operate at the optimal average design flow rate for maximum groundwater clean-up.
- b. No backwash from any treatment unit(s) for maintenance purposes or any other reasons shall be discharged through the authorized outfall(s).
- c. The permittee shall not attain any effluent limitations by dilution pursuant to N.J.A.C. 7:14A-6.2. Specifically, the permittee shall not pump from a recovery well and divert such waters to the treatment system for the purposes of diluting groundwater from other contaminated recovery wells.
- d. Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge outfall(s) specified in Part III of this permit authorization at the nearest accessible point after final treatment but prior to actual discharge.

E. FACILITY MANAGEMENT**1. Discharge Requirements**

- a. The permittee shall discharge at the location(s) specified in PART III of this permit.
- b. The permittee shall not discharge foam, or cause objectionable deposits, or foaming of the receiving water.
- c. The permittee's discharge shall not produce objectionable color or odor in the receiving stream.
- d. The discharge shall not exhibit a visible sheen.

2. Applicability of Discharge Limitations and Effective Dates

- a. This master permit includes a schedule of compliance for:
Benzene (for discharges to saline waters for Tables A, B and D) - the initial phase limit of 50 ug/L as a daily maximum is effective until November 30, 2006. The final phase limit of 7.0 ug/L as a daily maximum is effective on December 1, 2006.
Total Recoverable Lead - the initial phase limits of 37 ug/L as a monthly average and 79 ug/L as a daily maximum are effective until November 30, 2006. The final phase limit of 10 ug/L as a daily maximum with monthly average monitoring is effective on December 1, 2006. This schedule of compliance does not apply to Table C.
Chronic WET (Table D only and if metals are present) - the initial phase limit of "monitoring only" is effective on the effective date of the individual authorization. The final phase limit of 61% is effective three years from the effective date of the individual authorization.

3. Use of Chemical Addition Agents

- a. If a permittee proposes addition of any chemical or biofouling agents in its treatment system in order to enhance treatment effectiveness and system performance, the permittee must obtain permission from the Department in writing prior to use of such compounds.
- b. The permittee shall submit a letter to the Department describing the use of such chemical addition agents, including information pertaining to dosage rates and frequency of dosage, and shall also include a material safety data sheet for the product(s).
- c. This letter shall be submitted to the appropriate Bureau of Point Source Permitting which issued the individual authorization where the address is included in the cover letter. The Department will then evaluate the submittal and notify the permittee in writing as to whether the compound can be utilized under the conditions of the individual authorization under the GPPC permit renewal. Please note that N.J.A.C. 7:14A-22.4(a)7 does not require a treatment works approval (TWA) modification for chemical addition where it is used for purposes of improving treatment system performance.

4. Operation, Maintenance and Emergency conditions

- a. The permittee shall operate and maintain treatment works and facilities which are installed or used by the permittee to achieve compliance with the terms and conditions of the permit as specified in the Operation & Maintenance Manual.
- b. The permittee shall develop emergency procedures to ensure effective operation of the treatment works under emergency conditions in accordance with NJAC 7:14A-6.12(d).

5. Third Party Storm Sewers

- a. If the permittee proposes to discharge or discharges through an off-site public or private storm drainage system, please note that this GPPC permit renewal to discharge does not exempt, nor shall be construed to exempt, the permittee from compliance with rules, regulations, policies, and/or laws lodged in any agency or subdivision of the state having legal jurisdiction over the storm sewer system proposed for use as a wastewater conveyance.

6. Permanent Cessation of Discharge to Surface Waters

- a. If the permittee permanently discontinues its discharge to surface waters for 30 days or more the appropriate Regional Bureau of Water and Compliance Enforcement shall be notified:
 - i. NORTHERN BUREAU (Counties of Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex and Warren) - (973) 299-7592.
 - ii. CENTRAL BUREAU (Counties of Mercer, Middlesex, Monmouth, Ocean and Union) - (609) 584-4200.
 - iii. SOUTHERN BUREAU (Counties of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester and Salem) - (609) 968-2640.

7. Revocation of an Individual Authorization under the GPPC Permit.

- a. If the permittee has permanently ceased its discharge to surface water, the permittee can request revocation of its individual authorization under the GPPC permit. The permittee can obtain the necessary revocation forms by accessing www.state.nj.us/dep/dwq or by contacting the Department's Bureau of Permit Management at (609) 984-4428. The permittee can also contact the appropriate Regional Enforcement Office for further guidance on closure proceedings.
- b. Upon receipt of an administratively complete revocation request, the Department will verify with the appropriate Regional Enforcement Office that the discharge has ceased and that the treatment works has undergone closure, in conformance with N.J.A.C. 7:14A-23.34. The Department will then revoke such individual authorization by preparing a copy of the individual authorization page showing the revocation date of the individual authorization and sending such to the permittee. However, the Department will not revoke an individual authorization if the Site Remediation Program disagrees that revocation is appropriate.

F. CONDITIONS FOR MODIFICATION**1. Causes for modification**

- a. Pursuant to N.J.A.C. 7:14A-6.2(a)(10)(iii), the Department may modify or revoke and reissue any permit to incorporate limitations or requirements to control the discharge of toxic pollutants, including whole effluent, chronic and acute toxicity requirements, chemical specific limitations or toxicity reduction requirements, as applicable.
- b. The Department may incorporate requirements to file monitoring data required by this permit electronically through a minor modification in accordance with N.J.A.C. 7:14A-16.5(a)1.

Non-Compliance Report

Federal Creosote Superfund Site

NJPDES Master General Permit # NJ 0102709

NJPDES/DSW General Permit Authorization # NJG0139050

Pursuant to NJAC 7:14A-6.10, the non-compliance has been reported to DEP Hotline within 24 hours of knowing about violation, DEP case ID#:06-10-18-0809-22. The following is a written account of the discharge submitted as per NJAC 7:14A-6.10(d):

1. Description of Discharge:
 - a. Plant effluent from water treatment facility
 - b. Time of Discharge: Sample indicating non-compliance was collected on September 27th, 2006 at 1300 hrs
 - c. Location of Discharge: Storm sewer at intersection of Valerie Rd. and Valerie Dr., Manville NJ – Leading to outfall #001D, 40deg 32'28"Lat, 74Deg 34'42"L on the, Millstone River.
 - d. Volume of Discharge: 35,372 gals.
 - e. Concentration of Pollutants: See table 1 below
 - f. Receiving Water – Millstone River via Storm Sewer
2. Steps being taken to determine cause of non-compliance:
 - a. Non-compliance is considered an anomaly. A second metals analysis of the effluent sample has been ordered to rule out laboratory error.
 - b. The system was run in recirculation mode and samples of plant influent and effluent were tested onsite for Cu by spectroscopy. All onsite testing showed no free copper detectable in the system.
3. Steps being taken to reduce, remediate and eliminate the non-complying discharge and any damage to the environment, and anticipated time frame to initiate and complete steps:
 - a. Due to laboratory turn around time the non-compliant discharge occurred 19 days before effluent results were verified. Since the treatment system is currently being operated intermittently, the non-complying discharge was an isolated event that has since surely dissipated.
4. Duration of Discharge including dates and times.
 - a. The non-compliant sample represents a discharge event conducted on 9/27/06 between 0945 and 1530, where 35,372 gallons were discharged.
5. The cause of the non-compliance:
 - a. Suspected channeling in activated carbon columns in conjunction with unusually high-TSS influent from dewatering a new phase of excavation.
6. Steps being taken to reduce, eliminate and prevent reoccurrence of the non-complying discharge:

- a. Backwash of activated carbon units will be performed at the beginning of every operating day, regardless of pressure differential, as a Corrective Action.
 - b. Bench testing has shown better coagulation using an alternative polymer. A high molecular-weight cationic polymer will be used to coagulate and remove fine silt along with metals adsorbed to particle surfaces.
7. Estimate of the threat to human health or the environment posed by the discharge:
 - a. Human health – minimal threat, receiving waters not used for primary contact recreation or drinking water.
 - b. Environmental – Cu is toxic to fish at discharged levels; however volume of water discharged is very small relative to receiving body flow.
8. The measures the permittee has taken or is taking to remediate the problem and any damage or injury to human health or environment, and to avoid a repetition of the problem.
 - a. There is no evident damage to human or environmental health – no remediation is underway or planned.
 - b. See item 6

Table 1 - Data Summary

Contaminant	Permit Limits		Sample Result
	Daily Maximum	Monthly Average	
Copper	100 ppb	50 ppb	101 ppb *

*Note- The only discharge for the month occurred on 9/27/06; only one data point can be used for calculating the monthly average value.

Please feel free to contact the following with questions and concerns:

Sevenson Environmental (Federal Creosote Superfund Site) 908-243-0318
 Joel Czachorowski – Project Manager
 Jason Carlson – Chief WWTP Operator

USEPA: Rich Puvogel – RPM – 908-203-0012 (NYC Office – 212-637-4410)

Non-Compliance Report

Federal Creosote Superfund Site

NJPDES Master General Permit # NJ 0102709

NJPDES/DSW General Permit Authorization # NJG0139050

1. Description of Discharge:
 - a. Plant effluent from water treatment facility
 - b. Time of Discharge: Sample indicating non-compliance was collected on December 20th, 2006 at 1300 hrs
 - c. Location of Discharge: Storm sewer at intersection of Valerie Rd. and Valerie Dr., Manville NJ – Leading to outfall #001D, 40deg 32'28"Lat, 74Deg 34'42"L on the, Millstone River.
 - d. Volume of Discharge: 34,248 gals.
 - e. Concentration of Pollutants: See table 1 below
 - f. Receiving Water – Millstone River via Storm Sewer
2. Steps being taken to determine cause of non-compliance:
 - a. Non-compliance is largely due to having only one data point to determine monthly average volume.
3. Steps being taken to reduce, remediate and eliminate the non-complying discharge and any damage to the environment, and anticipated time frame to initiate and complete steps:
 - a. Due to laboratory turn around time the non-compliant discharge occurred 19 days before effluent results were verified. Since the treatment system is currently being operated intermittently, the non-complying discharge was an isolated event that has since surely dissipated.
4. Duration of Discharge including dates and times.
 - a. The non-compliant sample represents a discharge event conducted on 12/20/06 between 0750 and 1400, where 34,248 gallons were discharged.
5. The cause of the non-compliance:
 - a. Due to cold overnight temperatures and thus, cold wastewater, polymer efficacy was greatly diminished.
6. Steps being taken to reduce, eliminate and prevent reoccurrence of the non-complying discharge:
 - a. A polymer specialist has been contacted to evaluate other polymers designed specifically for copper sequestration and suitable for use in cold wastewater.
7. Estimate of the threat to human health or the environment posed by the discharge:
 - a. Human health – minimal threat, receiving waters not used for primary contact recreation or drinking water.
 - b. Environmental – Cu is toxic to fish at discharged levels; however volume of water discharged is very small relative to receiving body flow.

8. The measures the permittee has taken or is taking to remediate the problem and any damage or injury to human health or environment, and to avoid a repetition of the problem.
- a. There is no evident damage to human or environmental health – no remediation is underway or planned.
 - b. See item 6

Table 1 - Data Summary

Contaminant	Permit Limits		Sample Result
	Daily Maximum	Monthly Average	
Copper	100 ppb	50 ppb	53 ppb *

*Note- The only discharge for the month occurred on 12/20/06; only one data point can be used for calculating the monthly average value.

Please feel free to contact the following with questions and concerns:

Sevenson Environmental (Federal Creosote Superfund Site) 908-243-0318
Joel Czachorowski – Project Manager
Jason Carlson – Chief WWTP Operator

USEPA: Rich Puvogel – RPM – 908-203-0012 (NYC Office – 212-637-4410)



State of New Jersey

Department of Environmental Protection

Municipal Finance and Construction Element

Division of Water Quality

P.O. Box 425

Trenton, New Jersey 08625

Fax: (609) 633-8165

www.state.nj.us/dep/dwq

Robert C. Shinn, Jr.
Commissioner

DONALD T. DiFRANCESCO
Acting Governor

August 21, 2001

USEPA
290 Broadway, 19th Fl
New York, NY 10007-1866

Gentlemen:

There is enclosed a permit issued to you pursuant to Title 58 of the Revised Statutes of New Jersey and in consideration of your application received on 07/17/2001 signed by Richard Puvogel, Remedial Project Manager, and Andrew N. Johnson, P.E.

The permit is for the construction and operation of a treatment works in Manville Boro, New Jersey and subject to the conditions as noted on the permit.

This approval is valid for a period of two (2) years from the issuance date, unless otherwise stated in the attached approval document. This approval shall expire unless building, installing or modifying of the treatment works has begun within the initial approval period. Treatment works approvals may be extended beyond the original two year approval date, to a maximum period of five years from the original issuance date, in accordance with the terms and conditions contained in N.J.A.C. 7:14A-22.12. A time extension request must be received by the Department prior to the permit's expiration date. Time extension requests shall be submitted to:

Bureau of Administration and Management
Municipal Finance and Construction Element
P.O. Box 425
401 E. State St., 3rd Floor
Trenton, New Jersey 08625

If you have any questions regarding the permit, please contact me by calling (609) 633-1208.

Sincerely,

Nicholas Horvath

Supervising Environmental Specialist
Bureau of Administration and Management

01-0568

Enclosure

cc: Blasland, Bouck and Lee



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
P.O. Box 402, TRENTON, NJ 08625-0402

PERMIT TO CONSTRUCT AND OPERATE* TREATMENT WORKS

**Local Agency approval required prior to operation*

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulation.

PERMIT NO.	ISSUANCE DATE	EXPIRATION DATE	DESIGN FLOW
01-0568	08/21/2001	08/20/2003	.72 M.G.D.

NAME AND ADDRESS OF APPLICANT
USEPA
290 Broadway, 19th Fl
New York NY 10007-1866

LOCATION OF ACTIVITY
Manville Boro
Somerset County

This permit grants permission to:

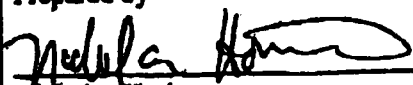
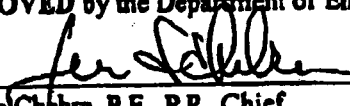
Construct and operate an oil/water separator, a polymer feed system, a settling tank, two (2) sediment filters, two (2) 30,000-pound carbon adsorption units and 3 holding tanks (total rated capacity @ 500 GPM) for groundwater remediation at the Federal Creosote Superfund Site, 172-216 E. Camplain Road, Lot 36 and 37, Block 315, in the Borough of Manville, Somerset County.

According to the plans entitled:

"Federal Creosote Superfund Site, Manville, New Jersey", prepared by Blasland, Bouck and Lee, Inc., dated July 16, 2001, unrevised, sheets 2-1, 2-2 and 2-3.

and according to the specifications entitled:

Construction Specifications, Federal Creosote Superfund Site, Manville, New Jersey", signed and sealed by Andrew N. Johnson, P.E., dated July 16, 2001.

Prepared by  Nicholas Horiates Supervising Environmental Specialist	APPROVED by the Department of Environmental Protection  Eugene Chebra, P.E., P.P., Chief Bureau of Administration and Management
--	--

This permit is also subject to special provisos and general conditions stipulated on the attached page(s) which are agreed to by the permittee upon acceptance of the permit.

July 70

Department of Environmental Protection of the State of New Jersey



This Certifies That

JAMES C. RUSSELL

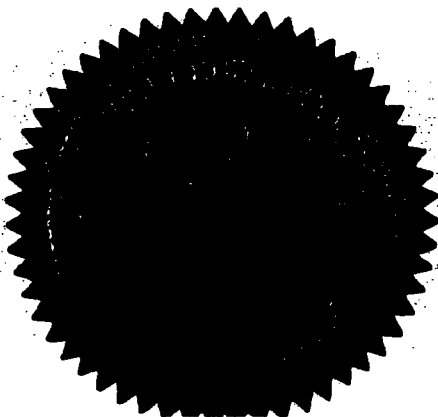
*Has passed a satisfactory examination and is hereby authorized to
operate a*

N-4 Industrial Wastewater Treatment System

*In accordance with the classification prescribed on the annual license therefor.
Licenses are Renewable.*

Registry No. N 1081
Trenton, New Jersey

Dec. 10 19 90



*In Witness Whereof, I have hereunto set
my hand and caused the Seal of the State
Department of Environmental Protection
to be affixed.*

John A. Gustin

DEPARTMENT OF
ENVIRONMENTAL PROTECTION

STATE OF
NEW JERSEY

Hereby Certifies the Goodstanding of:

JASON CARLSON

SSN: [REDACTED]

License No. **0027421**

Reg No. **0027421**

AS A LICENSED:

N4 INDUSTRIAL

Expires: **09/30/06**

Document#: **051854170**

OU3

Appendix C will be provided upon receipt.

OU3

Appendix D will be provided upon receipt.

Sevenson Environmental Services, Inc.

- **INSPECTION SUMMARY FORM**
- **SITE INSPECTION FORM**

Sevenson Environmental Services, Inc.

Health and Safety Site Inspection Form

Inspector: Paul Hitcho, Sam Tavelaris Inspection Date 04/14/2005

Section 1: Project Description

Project Name: Federal Creosote Superfund Site

Site Location: Manville, New Jersey

Project Number: G210/ 212

Project Manager: Gordon McDonald

Superintendent: Perry Novak

Site Safety and Health Officer (SSHO): Eric Tschudi and Davis Raver

Operations:

☐ Industrial Operations

☒ Remedial Operations

☒ Dewatering Operations

☐ Drum Handling Operations

☒ Drilling Operations

☐ Other: _____

☒ Emergency Response

☒ Excavation/Trenching/Shoring

☒ Confined Space Entry

☐ Thermal Desorption Operations

☒ Decontamination Operations

Section 2: General Site Setup/Support Zone

A. Site Setup

- | | | | |
|---|---|-----------------------------|------------------------------|
| 1. Are work zones clearly defined? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are support trailers located to minimize exposure from a potential release? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are support trailers accessible for approach by emergency vehicles? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Is the site properly secured during and after work hours? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are adequate communications (telephones, radios) available on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Is drinking water available? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Are adequate toilet facilities available on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Are eating and food storage areas clean and maintained? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Is there adequate lighting? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. Are Lock-Out/Tag-Out Kits available on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 11. Do all site personnel have a 40 hour certificate? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 12. Do Managers and/or Supervisors have a certificate for the 8 hours of additional training? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

- | | | | |
|--|---|-----------------------------|------------------------------|
| 13. Have all site personnel received medical surveillance in the previous 12 months? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 14. Are disposal arrangements in place for spent PPE and decontamination wash waters? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 15. Is all of the emergency and first aid equipment that is identified in the Site HASP available on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 16. Does the SS HO conduct daily safety inspections which are documented to identify safety hazards and unsafe conditions? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 17. Are accident /injury investigation forms available? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 18. Are all known safety hazards and unsafe conditions corrected? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

B. Health and Safety Plan

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Is a Site HASP accessible to all employees? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Has the Site HASP been briefed to employees on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are the MSDSs available for review by employees on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Is there a designated SSO on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are employees aware and understand the results of exposure? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Is the air monitoring plan in place? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Are air monitoring devices properly used, calibrated and maintained? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Are air monitoring results logged and available for review? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Does the Site HASP include the following: | | | |
| • Site Characterization, description of existing conditions. | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Personnel training requirements. | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • A written PPE program describing the types and usage. | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Listing of PPE required for each site task. | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Is there a hazard/risk analysis for all site activities? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Are the frequency and types of air monitoring presented? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Are both personnel and equipment decontamination procedures presented? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Is an emergency response plan presented? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Are the medical surveillance requirements presented? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Has the nearest medical assistance been identified? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Is there a discussion of site control measures (i.e., fencing, security, work zones)? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Description of confined space entry procedures (if this work will occur). | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Has a spill containment program been included? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Is the Severson Corporate HASP available for all pertinent activities? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Are the programs and procedures presented in the Site and Corporate HASP being followed? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| • Have site personnel received training as outlined in the Site HASP? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

C. Site Posters

- | | | | |
|---|---|-----------------------------|------------------------------|
| 1. Are the following documents posted in a prominent and accessible area? | | | |
| <input type="checkbox"/> Department of Labor 5 – 1 Poster | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| <input type="checkbox"/> OSHA 300 Log | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

D. Emergency Plans

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Are emergency telephone numbers posted and verified? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Have emergency escape routes been designated? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are employees familiar with the emergency signals? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Is the hospital route posted? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are employees familiar with emergency procedures? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Is the inventory of emergency response equipment and supplies adequate? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

E. Medical and First Aid

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Are First Aid Kits accessible and identified? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are emergency eye washes available and in proper working order? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are emergency showers available? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are the First Aid Kits large enough for the number of people on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are the First Aid Kits inspected after each use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Are there First Aid/CPR trained personnel available? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Is a heat/cold stress monitoring program in place? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Have First Aid/CPR trained personnel received Blood Borne Pathogen training? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Have First Aid/CPR trained personnel been offered the Hepatitis B Vaccination shot? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. Is there a written record of available if the Employee declines the shot? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

F. Fire Protection

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Has a fire alarm been established? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Do employees know the location and use of all fire extinguishers on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are fire extinguishers marked and inspected monthly? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are combustible materials segregated from open flames? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

G. Fire Prevention

- | | | | |
|--|---|-----------------------------|---|
| 1. Has a smoking policy been established? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Is smoking prohibited in flammable storage areas? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are fire lanes established and maintained? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are flammable dispensing systems grounded and bonded? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are proper receptacles (i.e., safety cans, cabinets) available for the storage of flammables? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Are gasoline cans of the proper type (not plastic)? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Has the local fire department been contacted? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Is ground and bonding equipment available? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Are fuel tanks properly contained with a dike? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> N/A |
| 10. Is the dike capable of holding quantities being contained? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> N/A |

Section 3: Work Areas/Contamination Reduction Zone/Exclusion Zone

H. Walking and Working Surfaces

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Are accessways, stairways, ramps, and ladders clean of ice, mud, snow, or debris? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are ladders within maximum length requirements? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are ladders properly barricaded if used in passageways, doors, or driveways? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are broken or damaged ladders tagged and taken out of service? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are metal ladders prohibited in electrical service areas? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Are stairways and floor openings guarded? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Are safety feet installed on straight and extension ladders? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Is general housekeeping up to our standards? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Are fall protection devices available on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. Are fall protection devices properly used and maintained? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 11. Are ladders secured when in use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 12. Is there a written Fall Protection Plan? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 13. Have employees received training in Fall Protection? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

I. Materials Handling

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Are materials stacked and stored as to prevent sliding or collapsing? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are flammables and combustibles stored in non-smoking areas? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Is machinery braced and lock-out/tag-out procedures in place? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are tripping hazards labeled? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are riders prohibited on materials handling equipment? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Are OSHA approved manlifts provided for the lifting of personnel? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Are all containers labeled as to contents? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Are flammable liquids stored in approved safety cans? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Are hoses secured and in good condition? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. If powered industrial trucks or fork lifts including "off road" forklifts are used, have operators been certified? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

J. Hand and Power Tools

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Are defective hand and power tools tagged and taken out of service? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Is eye protection available and used when operating power tools? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are guards and safety devices in place on power tools? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are hand and power tools inspected before each use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are spark-resistant tools available? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Are extension cords in good repair? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

K. Slings and Chains ☐ N/A

- | | | | |
|---|---|-----------------------------|------------------------------|
| 1. Are damaged slings, chains, and rigging tagged and taken out of service? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are slings inspected before each use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are slings padded or protected from sharp corners? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

4. Do employees keep clear of suspended loads? ☒ YES ☐ NO ☐ N/A

L. Personal Protective Equipment (PPE)

1. Have levels of PPE been established? ☒ YES ☐ NO ☐ N/A
2. Do all employees know their level of protection? ☒ YES ☐ NO ☐ N/A
3. Have respirator wearers been fit tested in the past year? ☒ YES ☐ NO ☐ N/A
4. Are respirators used, decontaminated, inspected, and stored according to standard procedures? ☒ YES ☐ NO ☐ N/A
5. Is defective PPE tagged? ☒ YES ☐ NO ☐ N/A
6. Does compressed breathing air meet CGA Grade "D" minimum? ☐ YES ☐ NO ☒ N/A
7. Are airlines monitored and protected? ☐ YES ☐ NO ☒ N/A
8. Are there sufficient quantities of safety equipment and repair parts? ☐ YES ☐ NO ☒ N/A
9. Is PPE and respiratory equipment properly used and maintained? ☐ YES ☐ NO ☒ N/A
10. Is hearing protection available for high noise? ☒ YES ☐ NO ☐ N/A
11. Is all PPE that has been used either disposed of or thoroughly cleaned prior to removal from any exclusion zone? ☒ YES ☐ NO ☐ N/A
12. Is there an adequate supply of PPE available? ☒ YES ☐ NO ☐ N/A
13. Are donning and doffing procedures identified? ☒ YES ☐ NO ☐ N/A
14. If SCBAs are on site, are they being inspected at least monthly? ☐ YES ☐ NO ☒ N/A

M. Electrical

1. Are warning signs exhibited on high voltage equipment (>250V)? ☒ YES ☐ NO ☐ N/A
2. Is electrical equipment and wiring properly guarded? ☒ YES ☐ NO ☐ N/A
3. Are electrical lines, extension cords, and cables guarded and maintained in good condition? ☒ YES ☐ NO ☐ N/A
4. Are extension cords kept out of wet areas? ☒ YES ☐ NO ☐ N/A
5. Is damaged electrical equipment tagged and taken out of service? ☒ YES ☐ NO ☐ N/A
6. Have underground electrical lines and utilities been identified by proper authorities? ☒ YES ☐ NO ☐ N/A
7. Are qualified electricians only allowed to work on electrical systems? ☒ YES ☐ NO ☐ N/A
8. Are lock-out/tag-out procedures in place when working with electrical systems? ☒ YES ☐ NO ☐ N/A
9. Are ground fault interrupter circuits used on all outdoor electrical hook-ups? ☒ YES ☐ NO ☐ N/A
10. Have the GFCIs been tested? ☒ YES ☐ NO ☐ N/A
11. Are there any open, exposed electrical panels on site? ☐ YES ☐ NO ☒ N/A

N. Compressed Gas Cylinders ☐ N/A

1. Are breathing air cylinders charged only to prescribed pressures? ☐ YES ☐ NO ☒ N/A
2. Are like cylinders segregated in well ventilated areas? ☐ YES ☐ NO ☒ N/A
3. Is smoking prohibited in cylinder storage areas? ☒ YES ☐ NO ☐ N/A
4. Are cylinders stored securely and upright? ☒ YES ☐ NO ☐ N/A
5. Are cylinders protected from snow, rain, etc.? ☐ YES ☒ NO ☐ N/A
6. Are cylinder caps in place before cylinders are moved? ☒ YES ☐ NO ☐ N/A
7. Are fuel gas and O2 cylinders stored a minimum of 20 feet apart? ☒ YES ☐ NO ☐ N/A

O. Scaffolding☐ N/A

- | | | | |
|--|---|--|------------------------------|
| 1. Is scaffolding placed on a flat, firm surface? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are scaffolding planks free of mud, ice, grease, etc.? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Is scaffolding inspected before each use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are defective scaffolding parts taken out of service? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Does scaffold height exceed 4 times the width or base dimension? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Does scaffold planking overlap a minimum of 12 inches? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Does scaffold planking extend over end supports between 6 to 18 inches? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Are employees restricted from working on scaffold during storms and high winds? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Are all pins in place and wheels locked? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

P. Personnel Decontamination☐ N/A

- | | | | |
|--|---|-----------------------------|---|
| 1. Are decontamination stations set-up on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Is a contamination reduction zone set-up on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are waste receptacles available for contaminated PPE? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are steps taken to contain liquids used for decon? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Have decontamination steps and procedures been covered by the SSHO in site briefings? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Is all PPE and respiratory equipment cleaned daily? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> N/A |

Q. Equipment Decontamination☐ N/A

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Has an equipment decon been established? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Is contaminated wash water properly contained and disposed of? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are all pieces of equipment inspected for proper decontamination before leaving site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are all pieces of equipment being cleaned per HASP? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

R. Welding and Cutting☐ N/A

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Are fire extinguishers present at welding operations? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are confined spaces such as tanks, tested prior to welding? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are Hot Work Permits available? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are proper gloves, helmets, aprons available for welding? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are welding machines properly grounded? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Are spare oxygen and gas cylinders stored a minimum of 20 feet apart when not in use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Are only trained personnel permitted to operate welding and cutting equipment? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Are welding screens available for use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

S. Excavation, Trenching, and Shoring ☐ N/A

- | | | | |
|---|---|-----------------------------|------------------------------|
| 1. Are employee protection systems in place to protect employees? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are guardrails or fences placed around excavations near pedestrian or vehicle thoroughfares? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are utilities located and marked? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are ladders used in trenches over 4 feet deep? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Is material excavated placed a minimum of 2 feet from the excavation? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Is a competent person designated for the excavation? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

T. Confined Spaces ☐ N/A

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Have employees been trained in the hazards of CS? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are CS entry permits available on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Is a CS rescue team (on or off site) available? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are CS entry procedures being followed? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

U. Radiation ☒ N/A

- | | | | |
|---|------------------------------|-----------------------------|------------------------------|
| 1. Have employees been trained in the hazards of radiation or received Radiation Worker Training? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Is the NRC Form 3 or Agreement State equivalent posted? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Does the site possess radiation detection instrumentation? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Has the instrumentation been calibrated in the past 12 months? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are the calibration papers on file for the instruments on site? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Is dosimetry issued at the site? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Has NRC Form 4 been completed for individuals' assigned dosimetry? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Are routine radiological surveys conducted in offices and break rooms? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Air monitoring program established? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. Have Radioactive Source Instruments been leaked checked in the past six months? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. Do Radioactive Source Instruments have proper postings posted at storage locations? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 11. Has a public dose exposure estimate been performed for Radioactive Source Instrument storage areas? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| If "yes" is annual dose to the public less than 100 mrem/yr? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | |

Section 4: Equipment/Vehicles

V. Motor Vehicles

- | | | | |
|--|---|-----------------------------|------------------------------|
| 1. Are vehicles inspected before each use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Are persons licensed or certified for the equipment they operate? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are unsafe vehicles tagged and reported to supervision? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Are vehicles shut down before fueling? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. When backing vehicles, are spotters provided? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Is safety equipment on vehicles? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Are loads secure on vehicles? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |

W. Heavy Equipment

- | | | | |
|--|---|-----------------------------|---|
| 1. Is heavy equipment inspected before each use? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 2. Is defective equipment tagged and taken out of service? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 3. Are project roads and structures inspected for load capacities and proper clearances? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 4. Is heavy equipment shut down for fueling and maintenance? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 5. Are back-up alarms installed and working on equipment? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 6. Have Operators been properly trained to operate the equipment they are using? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 7. Are riders prohibited on heavy equipment? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 8. Are guards and safety devices in place and used? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 9. Are barriers set up to prevent personnel from entering the area within the swing radius of track equipment? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 10. If not, are warning signs posted on both sides and the rear of track equipment warning employees to stay out of the swing radius and have site personnel been trained to stay out of the swing radius areas? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 11. Are annual inspection reports for all cranes available on site? | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO | <input type="checkbox"/> N/A |
| 12. In Michigan, are annual inspection reports for all track excavators available on site? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> N/A |

Item No.

SEVENSON ENVIRONMENTAL SERVICES, INC.

Sevenson Environmental Services, Inc.

Health and Safety Inspection Summary Form

Inspection Date: _____ Inspector: _____

Site: _____

Project Manager: _____

Superintendent: _____

Site Safety and Health Officer: _____

OPERATIONS REVIEWED:

Corrective Measures Required?

☐ Yes

☐ No

If Yes, please briefly describe issues and suggested corrective measure(s). See completed Site Inspection Form for details.

Date Prepared

Inspector Signature

Distribution: Director of Health and Safety (Paul Hitcho VP, Ph.D., CIH)
Project Manager (_____)
Superintendent (_____)
Health and Safety Officer (_____)

SUBJECT: Federal Creosote: 2004 Health and Safety Audit
Summary and Discussion

1. On December 8-9, 2004 Mr. Raymond Lo, US Army Corps of Engineers New York District (CENAN) completed a detailed health and safety field audit of construction operations at the Federal Creosote Superfund Site. The intent of the audit was to document the Contractor's, Severson Environmental Services' (SES), health and safety performance as specified in the contract; provide documentation to assist in assigning an appropriate contractor health and safety performance rating; and provide opportunity to exchange information and experiences on ways to improve quality and performance. The results of this audit are to be used in conjunction with additional information collected by CENAN site project managers and Safety Office personnel.
2. I would like to thank site personnel for their cooperation in completing the audit efficiently, specifically Mr. Eric Tschudi and Mr. Davis Raver, Jr. The significant efforts of all site personnel (USEPA, SES and USACE) were evident and directly contributed to the positive findings of the audit.
3. The audit utilized a prepared checklist that was provided to the Contractor prior to the site visit. The checklist focused on record keeping and action items stated in the Contractor's current versions of the Site Specific Safety and Health Plan (SSHP), SSHP Amendments, and the Ambient Air Monitoring Plan (AAMP). For each checklist item includes a reference to these site plans, the contact specification, or Federal regulation are included. Findings and recommendations have been subjectively ranked on the checklist (last column) to assist in prioritizing corrective action.
4. A summary of findings, observations, and recommendations is included on the attached checklist. For each item with a comment, the field observation is italicized and follows a "ⓧ" symbol.
5. Overall the excellent performance found during the previous audit of the site continues. The program was found to be in compliance with contract health and safety requirements. The teamwork between the contractor, USEPA, and USACE personnel continue to enhance the effectiveness of the site safety and health program.
6. To date, the contractor has achieved over 358,000 man-hours without a lost-time injury. This achievement could be attributed to the continued efforts by site personnel an effective participation and involvement of safety personnel into the day-to-day site operations and planning.
7. Along with maintaining last year's performance level, the program has also improved. There is an increased level of trust and

communication between the health and safety staff and the union work force, tailgate talks are currently conducted to facilitate two way communication, this enables the health and safety staff to address issues in an open forum in addition to sharing best management practices and lessons learned.

8. Please contact me at (212)264-9050 or via email at raymond.lo@usace.army.mil if you have any questions or concerns related to this audit.

SIGNED

Raymond Lo
Industrial Hygienist
CENAN - SA

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

Federal/American Creosote SSHP OU-1 Phase 1 v. 28-FEB-2002
Federal Creosote AMP OU-1; 2; and Phase 2 03 JUN 2003
SSHP Addendum 27 JAN 2003

Date: December 8-9, 2004

Safety and Health Issues to be Verified

Yes No NA Rank

1. Current version of the SSHP present onsite and available to all site workers? [1926.65 (b)(4)]
☒ *Available in site trailers and work vehicles.*
2. Do site personnel have current documented training in:
 - ◇ 40 Hour HAZWOPER? [1926.65 (e)(3)] Documented onsite? (SSHP7.0) ☒
Reviewed documentation for the following personnel – Frank Manarino (Laborer) and Richard Hamlette (Laborer)
 - ◇ 8-Hour Annual HAZWOPER Refresher? ☒
 - ◇ 2-persons CPR/First Aid? (385 03.A.02) (SSHP7.0) ☒
Reviewed Eric Tschundi's training certification, there are four other employees on location that are CPR/First Aid certified
 - ◇ 8-Hour Hazardous Waste Site Supervisor? [1926.65 (e)(4)] ☒
Reviewed Brian Shanahan's certification
 - ◇ Medical Surveillance Certificates submitted to CO for all employees in EZ? (SSHP5.0) ☒
Reviewed documentation for the following personnel – Frank Manarino (Laborer) and Richard Hamlette (Laborer)
 - ◇ Site-specific training documentation onsite and submitted to CO? (SSHP7.2) ☒
All files contain required : Training Acknowledgment Form"
 - ◇ MSDSs available in Site trailer and submitted to CO? (SSHP7.2) ☒
Located in health and safety trailer
 - ◇ Training on new MSDSs completed and documented? (SSHP7.2) ☒
Initial site briefing includes general training. MSDS specific training is included in tailgate sessions.
 - ◇ Tailgate safety meetings held daily and documented? (SSHP7.2) ☒
Reviewed Motor vehicle talk (10/11/04) and Safe winter walking (12/7/04)
 - ◇ Visitor training completed and documented? (SSHP7.3) ☒
Reviewed Jennifer Gurdak training records (11/9/04)
 - ◇ Subcontractor training on requirements of the SSHP? (SSHP8.0) ☒
Preparatory work meeting with subcontractors prior to the start of work
3. Is an AED available onsite and readily available for use by trained site personnel? ☒
Recommend: *Address the use and policies related to the AED in the SSHP.*
4. Contract mechanism requiring Subcontractors to follow the approved SSHP? (SSHP 8.0) ☒
Reviewed purchase order for Elite Landscaping and Bennett environmental, both have contract language stating compliance with SSHP
5. Monitoring for cold stress at temperatures below 40 degrees? (SSHP10.0) ☐
6. Hearing protection used by equipment operators and helpers? (SSHP11.0) ☒
7. Full body wash if full-body protective clothing is used? (SSHP 12.1 c) ☐
Full shower available if needed
8. SSHP informed of over-the-counter drug use? (SSHP12.2) ☒
9. Hot Work Permit, signed by SSHP, obtained before initiating cutting or welding? (SSHP8.0 1. a) ☒

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

<u>Safety and Health Issues to be Verified</u>	<u>Yes</u>	<u>No</u>	<u>NA</u>	<u>Rank</u>
10. Fire Watch assigned for all Hot Work? (SSHP8.0 1. a) <i>☒ There is a line item on the hot work permit for a fire watch to be assigned</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. Fire extinguishers inspected and tagged monthly? (SSHP8.0 1. b) <i>☒ An excel list of all fire extinguishers is maintained with the SHO</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. Heavy equipment inspected by the operator prior to use? (SSHP8.0 d)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13. Site inspected by the SSHO daily? (SSHP 8.0 g) (SSHP17.0 2 c) and submitted to CO? (SSHP23.0 3) <i>☒ Detailed on the daily report</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14. During excavation activities that utilize shoring, is the support system inspected daily for misalignment, cracking, or bulging? And documented? (Amend 23 JAN 03)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
15. Eating, drinking, smoking, chewing gum, and make-up prohibited in contaminated areas? (SSHP12.0 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16. Hands and face washed prior to leaving work area before eating, drinking, urinating, or other activities? (SSHP12. b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17. Personnel wearing respiratory protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
♦ Fit Tested? (SSHP13.0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
♦ Individually assigned respirators? (SSHP13.0)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
♦ Adequate storage provided? (CFR 1910.134 h 2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
♦ Cartridges changed out daily? (SSHP13.0 4 d)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
18. Confined space permit obtained as required? (SSHP14.0 12)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
19. Perimeter signage present? (SSHP15.0 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20. Work Zones clearly delineated? (SSHP15.0 2.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21. EZ Delineated with orange fencing and warning signs? (SSHP15.0 2 a 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22. CRZ delineated using flagging and stakes? (SSHP15.0 2 a 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
23. Emergency phone numbers posted at all site phones? Dashboards of field vehicles? (SSHP15.0 3) (SSHP19.0 5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
24. Showers and lunch areas provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
25. Equipment decontaminated prior to any maintenance? (SSHP16.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
26. Certificate of Decontamination completed? (SSHP16.0 2) <i>☒ Records of decontamination completed maintained with SHO</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
27. New Jersey One-Call System used for utility clearances? (SSHP17.0 a) <i>☒ History of one calls are maintained electronically</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
28. All mobile equipment provided with working backup alarms? (SSHP17.0 2 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
29. Equipment attended during operation? (SSHP17.0 2 b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
30. All electrical equipment grounded and GFCIs used? (SSHP17.0 2 f)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
31. Adequate number of toilet facilities provided? (SSHP17.0 2 g)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
32. Source of potable water provided? (SSHP17.0 2 h)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
33. LOTO program implemented? (SSHP17.0 2 k)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
34. First aid kits provided with burn kits? (SSHP18.0 1 a)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

Safety and Health Issues to be Verified

Yes No NA Rank

35. Following Fire extinguishers provided? (SSHP18.0 1 b)

◊ 3A:40B:C

☒ ☐ ☐

◊ 20A:120B:C

☒ ☐ ☐

36. Fire extinguishers located at the following:

◊ USACE Trailer? (SSHP18.0 2 a)

☒ ☐ ☐

◊ USEPA Trailer? (SSHP18.0 2 b)

☒ ☐ ☐

◊ Office trailer? (SSHP18.0 2 c)

☒ ☐ ☐

◊ Construction Equipment Trailer? (SSHP 18.0 2 d)

☒ ☐ ☐

◊ Health and Safety Trailer? (SSHP 18.0 2 e)

☒ ☐ ☐

◊ Flammable Storage Area? (SSHP 18.0 2 f)

☒ ☐ ☐

◊ All site vehicles and heavy equipment? (SSHP18.0 2 g)

☒ ☐ ☐

37. Medical Facility? (SSHP18.0 1 c)

☒ ☐ ☐

38. Emergency Eyewash? (SSHP18.0 1 d)

☒ ☐ ☐

39. Two SCBAs? (SSHP 18.0 1 e) ☒ *Recommend: SCBAs are no longer on location, recommend amending health and safety plan to reflect this change*

☐ ☐ ☒

40. Spill Kits? (SSHP18.0 f)

☒ ☐ ☐

41. PPE (Level C) for two visitors? (SSHP18.0 g)

☒ ☐ ☐

42. Air horn available for use? (SSHP19.0 1 b.)

☒ ☐ ☐

43. Plastic sheeting available for medical emergencies? (SSHP19.0 3 c)

☒ ☐ ☐

44. Capabilities of selected medical facility verified by SSHO? (SSHP19.0 5)

☒ ☐ ☐

45. Community Evacuation Planning Meeting completed? (SSHP19.0 7) ☒ *Met with Carol Campbell (Somerset Medical Center)*

☒ ☐ ☐

46. Drills for Emergency Response and Contingency Planning completed? (SSHP19.0 7 g)

☒ ☐ ☐

47. Medical Facility advised in writing of potential medical emergencies and notified of potential contaminants? (SSHP19.0 g)

☒ ☐ ☐

48. Community Protection Officer identified? (SSHP20.0 2 a)

☒ ☐ ☐

49. Personal Air Monitoring Sheets maintained? (SSHP20.0 3)

☒ ☐ ☐

50. Excavation activities curtailed when wind speeds exceed 15 mph for more than 15 minutes? (SSHP21 a)

☐ ☐ ☒

51. Any mud on the decontamination pad kept moist? (SSHP21.0 b)

☒ ☐ ☐

52. All trucks carry contaminated debris and rubble covered? (SSHP21.0 c)

☒ ☐ ☐

53. Personal monitoring in EZ performed every 2-Hours? (SSHP22.0 1)

☒ ☐ ☐

54. Integrated monitoring for BETX and PAHs completed once a month? (SSHP22.0 2)

☒ ☐ ☐

55. Do site records contain the following?

◊ Training Log (SSHP 23.0 1 a)

☒ ☐ ☐

◊ Daily Logs (SSHP23.0 1 b)

☒ ☐ ☐

◊ Weekly Reports (SSHP23.0 1 c)

☒ ☐ ☐

◊ Real-time Air Monitoring (SSHP23.0 1 d)

☒ ☐ ☐

◊ Safety Meeting Record (SSHP23.0 1 e)

☒ ☐ ☐

◊ Decontamination Log (SSHP23.0 1 h)

☒ ☐ ☐

◊ Calibration Sheets (SSHP23.0 1 i)

☒ ☐ ☐

◊ Hot Work Permits (SSHP23.0 1 j)

☒ ☐ ☐

◊ Confined Space Permits (SSHP23.0 1 k)

☐ ☐ ☒

◊ Accident Reports (SSHP23.0 1 l)

☐ ☐ ☒

QUALITY CONTROL HEALTH AND SAFETY CHECKLIST

<u>Safety and Health Issues to be Verified</u>	<u>Yes</u>	<u>No</u>	<u>NA</u>	<u>Rank</u>
◇ Employee/Visitor Registration (SSHP23.0 1 m)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Medical Certifications (SSHP23.0 1 n)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
56. Employee and Visitor Log contain the following: (SSHP23.0 5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Date and Time entering/exiting the site	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Name and Address <i>⊗ No line item for address on visitor log, Recommend deleting address requirement</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
◇ Representing Agency/Company	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
57. Air Quality Reports approved and signed AQS prior to submittal? (AMP3.0 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
58. AM&ST correctly identified? (AMP3.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
59. Appropriate sampling approach utilized for the current site activities? (AMP4.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60. TO-13, TO-14, and PM-10 performed monthly? (AMP4.1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
61. Work zone perimeter real-time TVO with 15-minute averages being performed? (AMP5.0 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
62. TVO and dust 15-min averages and graphs included in the Daily Air Monitoring Summary Report? (AMP9.1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
63. Calibration and calibration checks on real time instruments performed correctly? (AMP10.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
64. Operating TVO operating manual available onsite? (AMP 5.1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
65. Any TVO action level exceeded? Corrective action taken and documented? (AMP5.1.1) (10.4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
66. And dust action level exceeded? Corrective action taken and documented? (AMP5.2.1) (10.4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
67. TO-13 and PM-10 High volume samplers calibrated at least every 3-months or 360 hours? (AMP6.1) (6.3) <i>⊗ Reviewed calibration records</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
68. Meteorological hourly summary data included on spreadsheet? (AMP7.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
69. Adjacent roadways swept prior to sampling? (AMP8.0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
70. Monthly air monitoring reports submitted within 14-days of receipt of sampling results? (AMP9.2) <i>⊗ Receive monthly reports</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
71. Results compared to action limits in tabular form? (AMP9.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
72. Calibration standards NIST traceable? (AMP10.2) <i>⊗ Reviewed NIST documents</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
73. Calibrations and post calibration check readings documented? (AMP10.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
74. Preventive maintenance schedule developed? (AMP10.3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
75. Maintenance documented? (AMP10.3) <i>⊗ Dust Trac sent in for annual maintenance</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
76. Data evaluated by qualified and experienced personnel prior to use? (AMP10.4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
77. Poor quality data not used in evaluation process? (AMP10.4) <i>⊗ There was an incident that generated skewed data from a train being parked in the vicinity of an PM10 air monitor, in another incident, there was a laborer using a sealer too close to a Area-Rae VOC monitor, both of these events were reviewed by the SHO and determined to be poor quality data</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

HEALTH AND SAFETY AUDIT

US Army Corps of Engineers - Kansas City District

CONTRACTOR: CDM Federal Programs
PROJECT: Horseshoe Road
DATE: February 21-22, 2006
Project Manager: Robyn Kiefer

1.00 POLICY AND STANDARDS

- 1.10 Has an accident prevention plan with required HTRW amendment been written and communicated to workers? (385 01.A.11)
- 1.20 Does each subcontractor have a written Health and Safety Program? (CDM Appendix C)
- 1.30 Have all policy statements been endorsed by top management and clearly communicated to employees? (385 01.A.06)
- 1.40 Are injuries reported to the onsite government representative within 24 hrs. (385 01.D.01.b.)
- 1.50 CDM Health and Safety Manual available onsite? (SSHP TOC)
- 1.60 Does the Contractor hold subcontractors accountable for compliance with the APP and the requirements of EM-385-1-17 (385 01.A.18)
- 1.70 Are all incidents involving fatality, permanent total or partial disability, hospitalization of three or more, or property damage greater than \$200,000 reported to the GDA immediately? (385 01.D.02)
- 1.80 Are accident/illness exposure/experience records to include those of the prime contractor and all subcontractors? (385 01.D.05.a)

MAX	ACTL	CA
40	35	x
30	20	x
10	10	
5	5	
10	8	
30	25	
10	10	
10	10	
145	123	85%

Summary: 1.00 Policy and Standards

2.00 ORGANIZATION AND STAFFING

- 2.10 Onsite personnel designated in the SSHP present onsite? Signature page completed? (385 App A) Has each subcontractor designated a qualified safety representative? (CDM App C)
- 2.20 Is the designated site safety and health officer (SSHO) onsite during all work hours? (385 01.A.17)
- 2.30 Has the SSHO been delegated appropriate authority to implement and enforce the Contractor's APP? (385 01.A.17)
- 2.40 Are documented inspections completed by competent qualified persons? (385 App A 7.a)

30	25	
30	30	
40	40	
30	20	
130	115	88%

Summary: 2.00 Organization and Staffing

3.00 TRAINING

- 3.10 Is safety and health information readily available and communicated to workers? (385 01.A.06)
- 3.11 Required HTRW training documentation present onsite? Worker, supervisor, and CPR/First Aid?
- 3.12 Map denoting the route to nearest emergency care facility posted? (385 01.C.06.a)
- 3.13 Emergency communications available? (385 01.C.06.b)
- 3.20 Are safety meeting conducted site foreman for all workers at least weekly and documented? (385 01.B.05.a)
- 3.21 Are supervisor safety meetings conducted at least monthly? (385 01.B.05.a)
- 3.30 Is new employee safety training available, completed, and documented? (385 01.B.05.b)
- 3.40 Is the Government Designated Authority advised of all safety training in advance and invited to attend? (385 01.B.05.c)

5	5	
20	20	
20	20	
50	50	
30	30	
10	10	
30	30	
5	5	

Page 1

3.00 TRAINING (CONT)

- 3.50 Is safety training conducted by qualified personnel? (385 01.B.01)
- 3.60 Employees receive adequate training on the use, care, and inspection of personal protective equipment? (385 05.A.03)
- MSDSs readily available for hazardous chemicals brought onsite? (385 App A)

MAX	ACTL	CA
30	30	
10	10	
10	10	
220	220	100%

Summary: 3.00 Training

4.00 HAZARD ANALYSIS

- 4.10 Has an activity hazard analysis (AHA) been completed for each type of work involving a hazardous activity, including subcontracted work? (385 01.A.13)
- 4.20 Are AHA's reviewed and modified as necessary to address changing conditions, operations or of competent/qualified person(s)? (385 01.A.13.d)

40	30	x
40	35	x
80	65	81%

Summary: 4.00 Hazard Analysis

5.00 ASSESSMENT

- 5.10 Program level inspections completed by a competent person? Do inspections identify items requiring corrective action? (385 01.A.12.a and c)
- 5.20 Are daily safety inspections conducted and documented in the QC log? (385 01.A.12.b) Are documented daily inspection completed by all subcontractors? (CDM App C)
- 5.30 Are equipment inspection checklists on hand and completed for all machinery and mechanized equipment used on site? (385 01.A.12) (385 16.A.)
- 5.40 Housekeeping inspected daily? Findings documented? (385 14.C.01.b)

20	20	
40	30	
20	10	
10	5	
90	65	72%

Summary: 5.00 Program Assessment

6.00 CORRECTIVE ACTION

- 6.10 Has the Contractor established a safety deficiency tracking system? (01.A.12.d)
- 6.11 Does the system tracking include the date the deficiency was identified? (385 01.A.12.d.1)
- 6.12 Does the log describe the deficiency? (385 01.A.12.d.2)
- 6.13 Does the log identify the name of person(s) responsible for correcting deficiency? (385 01.A.12.d.3)
- 6.14 Does the log include the projected resolution date and the date that it was actually resolved? (385 01.A.12.d.4-5)
- 6.20 Is the deficiency tracking log updated daily? (385 01.A.12.d)
- 6.30 Have deficiencies identified in previous site inspections and audits been corrected?

40	30	
10	10	
20	15	
5	5	
5	5	
20	20	
40	20	

Summary: 6.00 Corrective Action

140	105	75%
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HEALTH AND SAFETY AUDIT

US Army Corps of Engineers
Kansas City District

Notes:

- 1) If item is not applicable use the MAX value.
- 2) Check CA box if corrective action completed during the audit. All other items will be required to be tracked by the Contractor's deficiency tracking system.
- 3) Ratings: $\geq 95\%$ Outstanding;
95% > Above Average $\geq 90\%$;
90% > Average $\geq 80\%$;
80% > Marginal $\geq 70\%$;
< 70% Unsatisfactory.

Definitions:

MAX = Maximum Value
ACTL = Actual value assessed
CA = Corrective Action completed during inspection
385 = EM 385-1-1
1910 = 29 CFR 1910.120 or 1926.65
SSHO = Site Safety and Health Officer
SSHP CDM AHA = AHA 6142-211-001-ADMIN

7.00 COMPLIANCE EMPHASIS AREAS

7.10 Environmental Sampling

7.11 Decontamination of personnel and equipment completed in accordance with SSHP? (SSHP 16-63)

20	20	
----	----	--

7.12 Required PPE properly utilized? (SSHP 7)

10	10	
----	----	--

7.13 Required personal and environmental monitoring completed? (SSHP 9)

20	20	
----	----	--

7.20 Construction Equipment

7.21 Documented drill rig inspections completed daily? (SSHP AHA)

20	15	
----	----	--

7.22 Drill rig contain type A fire extinguisher? (SSHP App A)

10	10	
----	----	--

7.23 Leather gloves used during all drilling operations? (SSHP AHA)

5	5	
---	---	--

HTRW

7.30 Work zones identified? SSHP 2

20	20	
----	----	--

7.31 Designated level of protective equipment utilized? SSHP 7

20	15	x
----	----	---

7.32 Training documentation reviewed for all onsite personnel prior to the start of work?

30	30	
----	----	--

7.33 Personnel enrolled in a medical surveillance program, as appropriate? (CDM 8)

20	20	
----	----	--

7.34 SHM a Certified Industrial Hygienist, Certified Safety Professional, or Certified Health Physicist, dependent on contaminant-related hazards? (385 28.A.02.b.3.a)

20	15	x
----	----	---

OVERALL SAFETY PERFORMANCE SUMMARY

	Score	Rating
a. Adequacy of Safety Plan	91%	Above Average
b. Implementation of safety plan	89%	Average
c. Correction of noted deficiencies	76%	Marginal

Summary: 7.0 Compliance Emphasis Areas

195	180	92%
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Version: JAN 2006 - Horseshoe Road

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Auditor's Signature: *Mitchell*

Date: 24 FEB 2006

HEALTH AND SAFETY AUDIT

US Army Corps of Engineers - New York District

CONTRACTOR:

PROJECT:

DATE:

Project Manager:

1.00 POLICY AND STANDARDS

- a 1.10 Has an accident prevention plan with required HTRW amendment been written and communicated to workers? (385 01.A.11)
- a 1.20 Is the personal protective equipment program effective and include supervisory assessments, selection, training, and inspection? (385 05.A)
- b 1.30 Have all policy statements been endorsed by top management and clearly communicated to employees? (385 01.A.06)
- b 1.40 Are injuries reported to the onsite government representative within 24 hrs. (385 01.D.01.b)
- a 1.50 Worksites with non-english workers has person fluent in languages spoken and English? (385 01.A.05)
- b 1.60 Does the Contractor hold subcontractors accountable for compliance with the APP and the requirements of EM-385-1-17 (385 01.A.18)
- b 1.70 Are all incidents involving fatality, permanent total or partial disability, hospitalization of three or more, or property damage greater than \$200,000 reported to the GDA immediately? (385 01.D.02)
- b 1.80 Are accident/illness exposure/experience records to include those of the prime contractor and all subcontractors? (385 01.D.05.a)

MAX ACTL CA

40	40	
20	20	
10	10	
5	5	
20	20	
40	40	
10	10	
10	10	
155	155	100%

Summary: 1.00 Policy and Standards

2.00 ORGANIZATION AND STAFFING

- b 2.10 Onsite personnel designated in the SSHP present onsite? Signature page completed? (385 App A) Has each subcontractor designated a qualified safety representative? (CDM App C)
- a 2.20 Is the designated site safety and health officer (SSHO) onsite during all work hours? (385 01.A.17)
- b 2.30 Has the SSHO been delegated appropriate authority to implement and enforce the Contractor's APP? (385 01.A.17)
- b 2.40 Are documented inspections completed by competent qualified persons? (385 App A 7.a)

30	30	
30	30	
40	40	
30	30	
130	130	100%

Summary: 2.00 Organization and Staffing

3.00 TRAINING

- b 3.10 Is safety and health information readily available and communicated to workers? (385 01.A.06)
- a 3.11 Required HTRW training documentation present onsite? Worker, supervisor, and CPR/First Aid?
- a 3.12 Map denoting the route to nearest emergency care facility posted? (385 01.C.06.a)
- a 3.13 Emergency communications available? (385 01.C.06.b)
- b 3.20 Are safety meeting conducted site foreman for all workers at least weekly and documented? (385 01.B.05.a)
- b 3.21 Are supervisor safety meetings conducted at least monthly? (385 01.B.05.a)
- b 3.30 Is new employee safety training available, completed, and documented? (385 01.B.05.b)
- b 3.40 Is the Government Designated Authority advised of all safety training in advance and invited to attend? (385 01.B.05.c)

5	5	
20	20	
20	20	
50	50	
30	30	
10	10	
30	30	
5	5	

3.00 TRAINING (CONT)

- a 3.30 Is safety training conducted by qualified personnel? (385 01.B.01)
- b 3.30 Employees receive adequate training on the use, care, and inspection of personal protective equipment? (385 05.A.03)
- a MSDSs readily available for hazardous chemicals brought onsite? (385 App A)

MAX ACTL CA

30	30	
10	10	
10	10	
220	220	100%

Summary: 3.00 Training

4.00 HAZARD ANALYSIS

- a 4.10 Has an activity hazard analysis (AHA) been completed for each type of work involving a hazardous activity, including subcontracted work? (385 01.A.13)
- c 4.20 Are AHA's reviewed and modified as necessary to address changing conditions, operations or of competent/qualified person(s)? (385 01.A.13.d)
- b Operations involving potential exposure to hazardous substances reviewed and updated by IH or other competent person at least annually? (385 08.A.02d)

40	40	
40	40	
20	20	
100	100	100%

Summary: 4.00 Hazard Analysis

5.00 ASSESSMENT

- a 5.10 Program level inspections completed by a competent person? Do inspections identify items requiring corrective action? (385 01.A.12.a and c)
- b 5.20 Are daily safety inspections conducted and documented in the QC log? (385 01.A.12.b) Are documented daily inspection completed by all subcontractors?
- b 5.30 Are equipment inspection checklists on hand and completed for all machinery and mechanized equipment used on site? (385 01.A.12) (385 18.A.)
- c 5.40 Housekeeping inspected daily? Findings documented? (385 14.C.01.b)

20	20	
40	40	
20	20	
10	10	
90	90	100%

Summary: 5.00 Program Assessment

6.00 CORRECTIVE ACTION

- c 6.10 Has the Contractor established a safety deficiency tracking system? (01.A.12.d)
- c 6.11 Does the system tracking include the date the deficiency was identified? (385 01.A.12.d.1)
- b 6.12 Does the log describe the deficiency? (385 01.A.12.d.2)
- a 6.13 Does the log identify the name of person(s) responsible for correcting deficiency? (385 01.A.12.d.3)
- c 6.14 Does the log include the projected resolution date and the date that it was actually resolved? (385 01.A.12.d.4-5)
- c 6.20 Is the deficiency tracking log updated daily? (385 01.A.12.d)
- c 6.30 Have deficiencies identified in previous site inspections and audits been corrected?

40	40	
10	10	
20	20	
5	5	
5	5	
20	20	
40	40	

140	140	100%
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HEALTH AND SAFETY AUDIT

US Army Corps of Engineers
Kansas City District

Notes:

- 1) If item is not applicable use the MAX value.
- 2) Check CA box if corrective action completed during the audit. All other items will be required to be tracked by the Contractor's deficiency tracking system.
- 3) Ratings: $\geq 85\%$ Outstanding;
95% > Above Average $\geq 90\%$;
90% > Average $\geq 80\%$;
80% > Marginal $\geq 70\%$;
< 70% Unsatisfactory.

Definitions:

MAX = Maximum Value
ACTL = Actual value assessed
CA = Corrective Action completed during inspection
385 = EM 385-1-1
1910 = 29 CFR 1910.120 or 1926.65
SSHO = Site Safety and Health Officer

7.00 COMPLIANCE EMPHASIS AREAS

7.10 Environmental Sampling

- b 7.11
- b 7.12
- b 7.13

MAX ACTL CA

20	20	
10	10	
20	20	

7.20 Construction Equipment

- b 7.21 All equipment inspected in accordance with manufacturer's recommendations prior to being placed in use? (385 16.A.01)

20	20	
----	----	--

7.22

- b 7.23 Equipment operated by only designated qualified individuals? (385 16.A.04)

10	10	
5	5	

HTRW

- b 7.30 Site personnel properly trained in accordance with 1910.120? (385 28.A.02.b)

20	20	
----	----	--

- b 7.31 Personnel exposed to contaminant-related health hazards enrolled in a medical surveillance program? (385 28.A.02.b.5)

20	20	
----	----	--

- b 7.32 Adequate site control measures utilized? (385 28.A.02.b.10)

30	30	
----	----	--

- b 7.33 Appropriate decontamination procedures effectively implemented? (385 28.A.02.b.11 and 12)

20	20	
----	----	--

- b 7.34 SHM a Certified Industrial Hygienist, Certified Safety Professional, or Certified Health Physicist, dependent on contaminant-related hazards? (385 28.A.02.b.3.a)

20	20	
----	----	--

Summary: 7.0 Compliance Emphasis Areas

195	195	100%
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OVERALL SAFETY PERFORMANCE SUMMARY

	Score	Rating
a. Adequacy of Safety Plan	100%	Outstanding
b. Implementation of safety plan	100%	Outstanding
c. Correction of noted deficiencies	100%	Outstanding

Version: APR 2006 HTRW Generic

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Auditor's Signature: _____

Date: _____

HEALTH AND SAFETY AUDIT

US Army Corps of Engineers - New York District

CONTRACTOR: Severson Environmental
PROJECT: Federal Creosote
DATE: 28 APR 06
Project Manager: Todd Daniels

1.00 POLICY AND STANDARDS

- a. 1.10 Has an accident prevention plan with required HTRW amendment been written and communicated to workers? (385 01.A.11)
- b. 1.20 Is the personal protective equipment program effective and include supervisory assessments, selection, training, and inspection? (385 05.A)
- c. 1.30 Have all policy statements been endorsed by top management and clearly communicated to employees? (385 01.A.06)
- d. 1.40 Are injuries reported to the on-site government representative within 24 hrs. (385 01.D.01.b.)
- e. 1.50 Worksites with non-english workers has person fluent in languages spoken and English? (385 01.A.05)
- f. 1.60 Does the Contractor hold subcontractors accountable for compliance with the APP and the requirements of EM-385-1-17 (385 01.A.18)
- g. 1.70 Are all incidents involving fatality, permanent total or partial disability, hospitalization of three or more, or property damage greater than \$200,000 reported to the GDA immediately? (385 01.D.02)
- h. 1.80 Are accident/illness exposure/experience records to include those of the prime contractor and all subcontractors? (385 01.D.05.a)

MAX	ACTL	CA
40	40	
20	18	
10	10	
5	5	
20	20	
40	20	
10	10	
10	10	
155	133	86%

Summary: 1.00 Policy and Standards

2.00 ORGANIZATION AND STAFFING

- b. 2.10 Onsite personnel designated in the SSHP present onsite? Signature page completed? (385 App A) Has each subcontractor designated a qualified safety representative? (CDM App C)
- a. 2.20 Is the designated site safety and health officer (SSHO) onsite during all work hours? (385 01.A.17)
- c. 2.30 Has the SSHO been delegated appropriate authority to implement and enforce the Contractor's APP? (385 01.A.17)
- e. 2.40 Are documented inspections completed by competent qualified persons? (385 App A 7.a)

MAX	ACTL	CA
30	30	
30	30	
40	40	
30	23	
130	123	95%

Summary: 2.00 Organization and Staffing

3.00 TRAINING

- c. 3.10 Is safety and health information readily available and communicated to workers? (385 01.A.06)
- a. 3.11 Required HTRW training documentation present onsite? Worker, supervisor, and CPR/First Aid?
- e. 3.12 Map denoting the route to nearest emergency care facility posted? (385 01.C.06.a)
- g. 3.13 Emergency communications available? (385 01.C.06.b)
- b. 3.20 Are safety meeting conducted site foremen for all workers at least weekly and documented? (385 01.B.05.a)
- d. 3.21 Are supervisor safety meetings conducted at least monthly? (385 01.B.05.a)
- f. 3.30 Is new employee safety training available, completed, and documented? (385 01.B.05.b)
- h. 3.40 Is the Government Designated Authority advised of all safety training in advance and invited to attend? (385 01.B.05.c)

MAX	ACTL	CA
5	5	
20	20	
20	20	
50	50	
30	30	
10	10	
30	30	
5	5	

Page 1

3.00 TRAINING (CONT)

- a. 3.50 Is safety training conducted by qualified personnel? (385 01.B.01)
- c. 3.60 Employees receive adequate training on the use, care, and inspection of personal protective equipment? (385 05.A.03)
- b. MSDSa readily available for hazardous chemicals brought onsite? (385 App A)

MAX	ACTL	CA
30	30	
10	10	
10	10	
220	220	100%

Summary: 3.00 Training

4.00 HAZARD ANALYSIS

- a. 4.10 Has an activity hazard analysis (AHA) been completed for each type of work involving a hazardous activity, including subcontracted work? (385 01.A.13)
- c. 4.20 Are AHA's reviewed and modified as necessary to address changing conditions, operations or of competent/qualified person(s)? (385 01.A.13.d)
- b. Operations involving potential exposure to hazardous substances reviewed and updated by IH or other competent person at least annually? (385 06.A.02d)

MAX	ACTL	CA
40	40	
40	40	
20	20	
100	100	100%

Summary: 4.00 Hazard Analysis

5.00 ASSESSMENT

- a. 5.10 Program level inspections completed by a competent person? Do inspections identify any requiring corrective action? (385 01.A.12.a and c)
- b. 5.20 Are daily safety inspections conducted and documented in the QC log? (385 01.A.12.b)
- b. 5.30 Are equipment inspection checklists on hand and completed for all machinery and mechanized equipment used on site? (385 01.A.12) (385 16.A.)
- c. 5.40 Housekeeping inspected daily? Findings documented? (385 14.C.01.b)

MAX	ACTL	CA
20	15	
40	40	
20	20	
10	9	
90	84	93%

Summary: 5.00 Program Assessment

6.00 CORRECTIVE ACTION

- c. 6.10 Has the Contractor established a safety deficiency tracking system? (01.A.12.d)
- c. 6.11 Does the system tracking include the date the deficiency was identified? (385 01.A.12.d.1)
- c. 6.12 Does the log describe the deficiency? (385 01.A.12.d.2)
- c. 6.13 Does the log identify the name of person(s) responsible for correcting deficiency? (385 01.A.12.d.3)
- c. 6.14 Does the log include the projected resolution date and the date that it was actually resolved? (385 01.A.12.d.4-5)
- c. 6.20 Is the deficiency tracking log updated daily? (385 01.A.12.d)
- c. 6.30 Have deficiencies identified in previous site inspections and audits been corrected?

MAX	ACTL	CA
40	40	
10	10	
20	20	
5	5	
5	5	
20	10	
40	40	
140	130	93%

Summary: 6.00 Corrective Action

HEALTH AND SAFETY AUDIT

US Army Corps of Engineers
New York District

7.00 COMPLIANCE EMPHASIS AREAS

7.10 Environmental Sampling

b 7.11

b 7.12

b 7.13

7.20 Construction Equipment

b 7.21 All equipment inspected in accordance with manufacturer's recommendations prior to being placed in use? (385 16.A.01)

b 7.22

b 7.23 Equipment operated by only designated qualified individuals? (385 16.A.04)

HTRW

b 7.30 Site personnel properly trained in accordance with 1910.1207? (385 28.A.02.b)

b 7.31 Personnel exposed to contaminant-related health hazards enrolled in a medical surveillance program? (385 28.A.02.b.5)

b 7.32 Adequate site control measures utilized? (385 28.A.02.b.10)

b 7.33 Appropriate decontamination procedures effectively implemented? (385 28.A.02.b.11 and 12)

b 7.34 SHM a Certified Industrial Hygienist, Certified Safety Professional, or Certified Health Physicist, dependent on contaminant-related hazards? (385 28.A.02.b.3.a)

MAX ACTL CA

20	20	

5	5	

20	20	

20	20	

30	30	

20	20	

20	20	

Summary: 7.0 Compliance Emphasis Areas 135 135 100%

Notes:

- 1) If item is not applicable use the MAX value.
- 2) Check CA box if corrective action completed during the audit. All other items will be required to be tracked by the Contractor's deficiency tracking system.
- 3) Ratings: ≥95% Outstanding;
85%>Above Average≥90%;
80%>Average≥80%;
80%>Margin≥70%;
<70% Unsatisfactory.

Definitions:

MAX = Maximum Value

ACTL = Actual value assessed

CA = Corrective Action completed during inspection

385 = EM 385-1-1

1910 = 29 CFR 1910.120 or 1926.65

SSHO = Site Safety and Health Officer

OVERALL SAFETY PERFORMANCE SUMMARY

	Score	Suggested Rating
a. Adequacy of Safety Plan	98%	Outstanding
b. Implementation of safety plan	94%	Above Average
c. Correction of noted deficiencies	94%	Above Average

DRAFT

Version: APR 2006 HTRW Generic

Page 2

Auditor's Signature: _____

Date: _____

1.00 POLICY AND STANDARDS

1.10

1.20 PPE policy and procedures not adequately detailed in the SSHP.

1.30

1.40

1.50

1.60 Safety performance of subcontractors may not be adequately documented and incorporated into subcontract performance rating process.

1.70

1.80

2.00 ORGANIZATION AND STAFFING

2.10

2.20

2.30

2.40 Inspections are performed, however, not documented.

3.00 TRAINING

3.10

3.11

3.12

3.13

3.20

3.21

3.30

3.40

3.00 TRAINING (CONT)

3.50

3.60

4.00 HAZARD ANALYSIS

4.10

4.20

5.00 ASSESSMENT

5.10 Annual inspections completed, however, they are more compliance oriented. Program/process level inspections are not documented. Quarterly site visits by SHM completed, but not verified during audit.

5.20

5.30

5.40 Housekeeping observed to be good during site visit, however, inspection cannot be verified.

6.00 CORRECTIVE ACTION

6.10

6.11

6.12

6.13

6.14

6.20 Log has not been updated for one-year. Process may not be implemented effectively. Suggest encouraging employee involvement by tracking all employee suggestions requiring corrective action and reporting periodically through closure to the individual employee.

6.30

DRAFT

7.00 COMPLIANCE EMPHASIS AREAS

7.10 Environmental Sampling

7.11

7.12

7.13

7.20

7.21

7.22

7.23

HTRW

7.30

7.31

7.32

7.33

7.34

Version: April 2006 - Generic

DRAFT

CENWK-EC-EF (200-1c)

DDM//3911
26 JAN 2006

MEMORANDUM FOR CENAN-SO (HIGGINS)

THRU CENWK-EC-EF (POULIOT)

SUBJECT: Federal Creosote: 2nd Quarter 2006 Health and Safety Review

1. On 23 January 2006, a site visit to Federal Creosote Superfund Site was completed. The intent of the audit was to continue to provide routine site safety field support during Mr. Raymond Lo's absence while he is in Active Duty status. Field visits assist in maintaining effective communication with field safety personnel and demonstrate that safety continues to be a USACE project value.
2. The following field personnel were contacted during the visit: Mr. Neal Kolb, CENAN Project Engineer; Mr. Michael Johnson, CENAN Construction Representative; Mr. Eric Tschudi, Severson Site Safety and Health Officer; and Dr. Paul Hitcho, Severson Safety and Health Manager. A walk-through inspection of work areas and offices was also completed.
3. It was confirmed that the recent change in the perimeter monitoring sampling frequency from monthly to quarterly appears to be appropriate. The change allows more flexibility to complete sampling during periods that would be deemed "worse-case" or postponed until site conditions are more favorable for sampling.
4. Currently the project is in the process of scaling down as several of the earlier phases of work are ending. During this process it was noted that safety issues could arise from low morale. It could be challenging to maintain the program's effectiveness throughout the project's life cycle because activities may become routine, resulting in complacency.
5. It was indicated that a more formal audit of the safety program would be completed during the 3rd quarter visit.
6. Please contact me at (816) 983-3911 or via email at daniel.d.mitchell@usace.army.mil if you have any questions or concerns related to this review.


Daniel D. Mitchell, CIH, PMP
CENWK-EC-EF

CF: CENWK-PM-E (DANIELS)
CENAN-CO-NE (KOLB)

CENWK-EC-EF (2006/c)

DDM/ms/3911
18 December 2006

MEMORANDUM FOR CENAN-SO (HIGGINS)

THRU CENWK-EC-EF (LEIBBERT)

SUBJECT: Federal Creosote: 1st Quarter 2007 Health and Safety Review

1. On 13 DEC 06, a safety review of Federal Creosote Superfund Site was completed. The intent of this review was to assist in providing periodic safety support for selected FUSRAP and Superfund sites while Mr. Raymond Lo, CIH is on Active Duty. The following field personnel were contacted during the visit: Messrs. Neal Kolb, CENAN Project Engineer; Michael Johnson, CENAN Construction Representative; Jimmy Awad, CENAN Construction Representative; Eric Tschudi, Severson Site Safety and Health Officer (SSHO); and Davis Raver, Severson Safety and Health Technician.

2. No changes of note have occurred since the last site visit. Implementation of the site safety plan continues to be effective; recently the project exceeded 500,000 man-hours without a lost-work day incident. Site management, including safety, has effectively integrated safety procedures and requirements into the site's operations. During the site visit training, inspection, accident/incident investigation, and corrective action processes were reviewed.

3. Attended weekly progress meeting. The safety briefing included an incident where the 15-minute dust action level (AL) was exceeded. On December 5th, several wind gusts generated a visible dust. Additional dust control measures were initiated in response to the visible emission. That evening, in the data analysis confirmed that the dust levels exceeded the 15-minute AL which is 150 ug/m^3 . A concern related to the delay between the incident and time the AL was assessed and that no alarm is available to notify site personnel of a dust level above the AL.

4. Subsequent to the progress meeting, the action level and the need for an alarm was reviewed. No changes to the current approach are recommended for the following reasons: 1) The 15-minute AL uses the from the Environmental Protection Agency Ambient Air Quality Standard of 150 ug/m^3 of particulate. During design, an assessment determined that this AL would protect the adjacent community from potential health hazards associated with air emissions for project operations. This assessment included an evaluation of the site's chemicals of concern. However, a significant factor of safety has been included in the AL by using a time weighted average of 15 minutes instead of the normal NAAQS duration of 24 hours. 2) In this case, although corrective measures were implemented as a result of visual observations and not to an alarm, the real-time monitoring data validated that corrective action was required and that once taken it effective controlled dust emissions. If corrective action was not initiated, this would indicate a potential performance issue since the data would be indicative that a visible emission occurred and required mitigation.

CENWK EC-EF

SUBJECT: Federal Creosote: 1st Quarter 2007 Health and Safety Review

5. The accident report form, ENG 3394, for the compactor roll-over accident was reviewed. The accident was attributed to "operator error". It was suggested that there may have been other contributing factors that may not have effectively assessed during the investigation process. If identified subsequent corrective action may ameliorate identified hazards. There are several accepted methods to complete root-cause analyses and it may be beneficial for the SSHO to receive formal training in root-cause analysis. As a tool, this may increase the effectiveness of future accident investigation, should they occur. A copy of ENG 3394 is enclosed.
6. The following processes were verified, copies of selected site documentation are enclosed, during the visit: Safe Plan of Action process which incorporates hazard analysis; compliance with training requirements; inspection processes; and corrective action. From the review, the only suggestion made is to expand the corrective action log to include any items that is reported by workers or items that are identified during the daily inspection process that cannot be corrected immediately on-the-spot.
7. The results of the previous audit, completed 25 APR 06, were reviewed to assess the effectiveness of the corrective action process. The following comments were made:
 - a. Paragraph 4 states – "...increasing the level of documentation associated with the program and periodic site inspections and associated corrective action may be beneficial and provide a means to demonstrate compliance with contractual requirements." To date, no significant changes have been implemented in regards to this issue. Requirements for inspections are detailed in EM 385-1-1 01.A.12 and includes daily documented inspections and that any item identified in included in the deficiency tracking system. Items identified in the 25 APR 06 have not been adequately tracked and effectively closed.
 - b. Audit item 1.20e – *"Is the personal protective equipment program effective and include supervisory assessments, selection, training, and inspection?"* A revision to the plan was prepared in conjunction with a change in the Level Mod-D clothing components. Item is determined to be closed.
 - c. Audit Item 2.40 – *"Are documented inspections completed by qualified individuals?"* Daily inspections continue to occur and are incorporated into the Daily Quality Control Reports. This item is determined to be closed. However, periodic use of a more formal documented inspection process is recommended. It is my opinion that there are benefits that can be gained from using a more systematic inspection and corrective action method, especially on long-term projects such as Federal Creosote. Inspection requirements are included in EM 385-1-1 Appendix A.7.
 - d. Audit Item 5.10 – *"Program inspections completed by a competent person? Do inspections identify items requiring corrective action?"* The Health and Safety Manager completes site visits and informal inspections at least quarterly. However, it is recommended that a more formal systematic approach be used to assess and document the effectiveness of the safety program. Item has not been adequately addressed. In addition, since there is an absence of documented inspections the quality and effectiveness of the inspection process cannot be adequately assessed. An effective inspection process will identify areas of improvement.
 - e. Audit Item 6.20 – *"Is the deficiency tracking log updated daily?"* Safety issues are incorporated into the QC tracking system for the project which is updated in a timely manner. Therefore, this item is considered to be closed. However, only two safety-related items have been added to the log since the previous inspection. As stated previously, since there is limited documentation related to inspections and corrective action, it is difficult to assess the quality and effectiveness of these management processes.

CENWK EC-EF

SUBJECT: Federal Creosote: 1st Quarter 2007 Health and Safety Review

8. No change from the recommended performance ratings included in the 02 MAY 06 assessment is recommended.

9. Please contact me at (816) 389-3911 or via email at daniel.d.mitchell@usace.army.mil if you have any questions or concerns related to this review.

Encls

1. Safe Plan of Action
2. Corrective Action Log
3. ENG 3394

Daniel D. Mitchell, CIH, PMP
CENWK-EC-EF

CF: CENWK-PM-E (DANIELS)
CENAN-CO-NE (KOLB)
SEVENSON (HITCHO)

Project: Federal Creosote

Contractor: Severson

Contractor safety officer: Eric Tschudi and Davis River

Army Corp Reps: Neal Kolb, Mandeep Talwar, Micheal Johnson, Gamal Awad

Date of visit: March 7, 2007

Contractor activities: Excavation and load out

Deficiencies:

1. None observed

Compliant items:

1. Personnel protective equipment worn by site workers.

Comments:

1. There was a slip and fall observed by Raymond Lo in the morning, the worker got up and was not hurt. Recommendation to talk about slip, trips, and falls during a morning tool box talk.
2. There is orange fencing that is being used as perimeter protection along the excavation. There are two homes where this orange fencing is being used. One of the homes is being used by a Severson employee and the other is vacant, under these conditions Class II perimeter protection is adequate. (reference EM 385-1-1, 25.B.01 and Q-52) The orange fencing on the private owner's home appeared to sag at certain locations, recommendation to tighten fencing at this location.
3. Safety deficiencies are currently recorded in a deficiency list that is intermingled with various construction and quality assurance deficiencies. This process makes it difficult to extract the safety deficiencies, it is recommended to establish a separate safety deficiency log. (reference EM 385-1-1, 01.A.12.d)
4. Follow up on prior incidents in 2006 were reviewed with Eric Tschudi and Davis River and corrective actions has been completed on all incidents.

Project: Federal Creosote

Contractor: Severson

Contractor safety officers: Eric Tschudi and Davis River

Army Corp Reps: Neal Kolb, Mandeep Talwar, Micheal Johnson, Gamal Awad

Date of visit: April 24, 2007

Contractor activities: Excavation for storm drain, sheet pile removal via crane, backfill operations, PSEG removing power lines

Deficiencies:

1. None observed

Compliant items:

1. Electrical lines were taken down by PSEG prior to the removal of sheet piles adjacent to the electrical lines.
2. Excavation for storm drain was properly sloped and ladder was available for laborer to enter the excavation. Load charts for the excavator was available to the operator, slings used to lower concrete structure in excavation were in good condition.
3. Crane swing radius taped off during sheet pile removal.
4. Crane certificate of unit test is current and crane operator is certified, documentation is on location.

Comments:

1. A worker with the crane crew was torch cutting two inch holes with short sleeve shirt. Due to the sparks coming from the torch cutting it was recommended that he wear long sleeve shirt. The recommendation was instituted immediately.

(For Safety Staff only)	REPORT NO.	EROC CODE	UNITED STATES ARMY CORPS OF ENGINEERS ACCIDENT INVESTIGATION REPORT (For Use of this Form See Help Menu and USACE Suppl to AR 385-40)		REQUIREMENT CONTROL SYMBOL: CEEC-S-8(R2)
1. ACCIDENT CLASSIFICATION					
PERSONNEL CLASSIFICATION		INJURY/ILLNESS/FATAL		PROPERTY DAMAGE	MOTOR VEHICLE INVOLVED
GOVERNMENT <input type="checkbox"/> CIVILIAN <input type="checkbox"/> MILITARY <input checked="" type="checkbox"/> CONTRACTOR <input type="checkbox"/> PUBLIC		<input type="checkbox"/> <input type="checkbox"/> FATAL <input type="checkbox"/> OTHER		<input type="checkbox"/> FIRE INVOLVED <input type="checkbox"/> OTHER <input type="checkbox"/> FIRE INVOLVED <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> <input checked="" type="checkbox"/>
2. PERSONAL DATA					
a. Name (Last, First, MI) Mulvan, James		b. AGE 44	c. SEX <input checked="" type="checkbox"/> MALE <input type="checkbox"/> FEMALE	d. SOCIAL SECURITY NUMBER	
f. JOB SERIES/TITLE Operator		g. DUTY STATUS AT TIME OF ACCIDENT <input checked="" type="checkbox"/> ON DUTY <input type="checkbox"/> TDY <input type="checkbox"/> OFF DUTY		h. EMPLOYMENT STATUS AT TIME OF ACCIDENT: <input type="checkbox"/> ARMY ACTIVE <input type="checkbox"/> ARMY RESERVE <input type="checkbox"/> VOLUNTEER <input type="checkbox"/> PERMANENT <input type="checkbox"/> FOREIGN NATIONAL <input type="checkbox"/> SEASONAL <input type="checkbox"/> TEMPORARY <input type="checkbox"/> STUDENT <input type="checkbox"/> OTHER (Specify)	
3. GENERAL INFORMATION					
a. DATE OF ACCIDENT (month/day/year) 06/15/2006		b. TIME OF ACCIDENT (Military time) 1100 hrs		c. EXACT LOCATION OF ACCIDENT Federal Creosote Superfund Site, Manville, NJ	
e. CONTRACT NUMBER WS12DQ-04-D-0023, T.O. #0001		f. TYPE OF CONTRACT <input checked="" type="checkbox"/> CONSTRUCTION <input type="checkbox"/> SERVICE <input type="checkbox"/> A/E <input type="checkbox"/> DREDGE <input type="checkbox"/> OTHER (Specify)		g. HAZARDOUS/TOXIC WASTE ACTIVITY <input checked="" type="checkbox"/> SUPERFUND <input type="checkbox"/> DERP <input type="checkbox"/> IRP <input type="checkbox"/> OTHER (Specify)	
<input type="checkbox"/> CIVIL WORKS <input type="checkbox"/> MILITARY <input checked="" type="checkbox"/> OTHER (Specify) Superfund		d. CONTRACTOR'S NAME (1) PRIME: Sevenson Environmental Services, Inc. (2) SUBCONTRACTOR:			
4. CONSTRUCTION ACTIVITIES ONLY (Fill in line and corresponding code number in box from list - see help menu)					
a. CONSTRUCTION ACTIVITY Excavation/Trenching (Stockpile Loadout)			(CODE) # 3	b. TYPE OF CONSTRUCTION EQUIPMENT Backhoe	
				(CODE) # 16	
5. INJURY/ILLNESS INFORMATION (Include name on line and corresponding code number in box for items e, f & g - see help menu)					
a. SEVERITY OF ILLNESS/INJURY No Injury			(CODE) # NOI	b. ESTIMATED DAYS LOST 0	c. ESTIMATED DAYS HOSPITALIZED 0
d. ESTIMATED DAYS RESTRICTED DUTY 0					
e. BODY PART AFFECTED PRIMARY NA (CODE) # NA SECONDARY NA (CODE) # NA			g. TYPE AND SOURCE OF INJURY/ILLNESS TYPE NA (CODE) # NA SOURCE NA (CODE) # NA		
f. NATURE OF ILLNESS/INJURY NA (CODE) # NA					
6. PUBLIC FATALITY (Fill in line and correspondence code number in box - see help menu)					
a. ACTIVITY AT TIME OF ACCIDENT NA (CODE) # NA			b. PERSONAL FLOATATION DEVICE USED? <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A		
7. MOTOR VEHICLE ACCIDENT					
a. TYPE OF VEHICLE <input type="checkbox"/> PICKUP/VAN <input type="checkbox"/> AUTOMOBILE <input type="checkbox"/> TRUCK <input checked="" type="checkbox"/> OTHER (Specify) PC300 Backhoe		b. TYPE OF COLLISION <input type="checkbox"/> SIDE SWIPE <input type="checkbox"/> HEAD ON <input type="checkbox"/> REAR END <input type="checkbox"/> BROADSIDE <input type="checkbox"/> ROLL OVER <input type="checkbox"/> BACKING <input checked="" type="checkbox"/> OTHER (Specify) NA		c. SEAT BELTS (1) FRONT SEAT <input checked="" type="checkbox"/> USED <input type="checkbox"/> NOT USED <input type="checkbox"/> NOT AVAILABLE (2) REAR SEAT <input type="checkbox"/> USED <input type="checkbox"/> NOT USED <input type="checkbox"/> NOT AVAILABLE	
8. PROPERTY/MATERIAL INVOLVED					
a. NAME OF ITEM		b. OWNERSHIP		c. \$ AMOUNT OF DAMAGE	
(1) PC300 Backhoe		Contractor		\$0.00	
(2) Electrical Conduit		Government		\$1,920.00	
(3)					
9. VESSEL/FLOATING PLANT ACCIDENT (Fill in line and correspondence code number in box from list - see help menu)					
a. TYPE OF VESSEL/FLOATING PLANT NA (CODE) # NA			b. TYPE OF COLLISION/MISHAP NA (CODE) # NA		
10. ACCIDENT DESCRIPTION (Use additional paper, if necessary)					
<p>The operator was utilizing a PC 300 track hoe on top of the subtitle C material stockpile within the Lagoon-A area when a piece of asphalt fell from the bucket and came in contact with the PVC electrical conduit running along side the stockpile boundary. (See additional sheet)</p>					

11. CAUSAL FACTOR(S) (Read Instruction Before Completing)			
a. (Explain YES answers in item 13) DESIGN: Was design of facility, workplace or equipment a factor? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> INSPECTION/MAINTENANCE: Were inspection & maintenance procedures a factor? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> PERSON'S PHYSICAL CONDITION: In your opinion, was the physical condition of the person a factor? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> OPERATING PROCEDURES: Were operating procedures a factor? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> JOB PRACTICES: Were any job safety/health practices not followed when the accident occurred? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> HUMAN FACTORS: Did any human factors such as, size or strength of person, etc., contribute to accident? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> ENVIRONMENTAL FACTORS: Did heat, cold, dust, sun, glare, etc., contribute to the accident? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		a. (CONTINUED) CHEMICAL AND PHYSICAL AGENT FACTORS: Did exposure to chemical agents, such as dust, fumes, mists, vapors or physical agents, such as, noise, radiation, etc., contribute to accident? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> OFFICE FACTORS: Did office setting such as, lifting office furniture, carrying, stooping, etc., contribute to the accident? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> SUPPORT FACTORS: Were inappropriate tools/resources provided to properly perform the activity/task? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> PERSONAL PROTECTIVE EQUIPMENT: Did the improper selection, use or maintenance of personal protective equipment contribute to the accident? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> DRUGS/ALCOHOL: In your opinion, was drugs or alcohol a factor to the accident? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
b. WAS A WRITTEN JOB/ACTIVITY HAZARD ANALYSIS COMPLETED FOR TASK BEING PERFORMED AT TIME OF ACCIDENT? <input checked="" type="checkbox"/> YES (If yes, attach a copy.) <input type="checkbox"/> NO			
12. TRAINING			
a. WAS PERSON TRAINED TO PERFORM ACTIVITY/TASK? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		b. TYPE OF TRAINING. <input type="checkbox"/> CLASSROOM <input checked="" type="checkbox"/> ON JOB	
c. DATE OF MOST RECENT FORMAL TRAINING. 06/15/2006 (Month) (Day) (Year)			
13. FULLY EXPLAIN WHAT ALLOWED OR CAUSED THE ACCIDENT; INCLUDE DIRECT AND INDIRECT CAUSES (See instruction for definition of direct and indirect causes.) (Use additional paper, if necessary)			
a. DIRECT CAUSE Asphalt material falling from bucket striking the electrical conduit.			
b. INDIRECT CAUSE(S) Operator not aware of the close proximity of electrical conduit to the stockpile.			
14. ACTION(S) TAKEN, ANTICIPATED OR RECOMMENDED TO ELIMINATE CAUSE(S).			
DESCRIBE FULLY: During the Daily Safety Meeting held the morning of 6/16/06, the topics discussed included paying attention to your surroundings when operating heavy equipment. (See additional sheet)			
15. DATES FOR ACTIONS IDENTIFIED IN BLOCK 14.			
a. BEGINNING (Month/Day/Year) 06/16/2006		b. ANTICIPATED COMPLETION (Month/Day/Year) 06/16/2006	
c. SIGNATURE AND TITLE OF SUPERVISOR COMPLETING REPORT CORPS _____ CONTRACTOR _____		d. DATE (Mo/Da/Yr) 06/19/2006	e. ORGANIZATION IDENTIFIER (Div, Br, Sect)
f. OFFICE SYMBOL 			
16. MANAGEMENT REVIEW (1st)			
a. <input type="checkbox"/> CONCUR b. <input type="checkbox"/> NON CONCUR c. COMMENTS 			
SIGNATURE		TITLE	DATE
17. MANAGEMENT REVIEW (2nd - Chief Operations, Construction, Engineering, etc.)			
a. <input type="checkbox"/> CONCUR b. <input type="checkbox"/> NON CONCUR c. COMMENTS 			
SIGNATURE		TITLE	DATE
18. SAFETY AND OCCUPATIONAL HEALTH OFFICE REVIEW			
a. <input type="checkbox"/> CONCUR b. <input type="checkbox"/> NON CONCUR c. ADDITIONAL ACTIONS/COMMENTS 			
SIGNATURE		TITLE	DATE
19. COMMAND APPROVAL			
COMMENTS			
COMMANDER SIGNATURE			DATE

10.

ACCIDENT DESCRIPTION *(Continuation)*

The PVC conduit was broken and the wires were severed. Power was interrupted to the yard scale. EID (electrical subcontractor) was called to the site to perform repairs to the line. The electricians arrived on site at approximately 1500 and finished the repair at 2100. The SES Safety Officer and Assistant Superintendent remained on site during the repair.

13a.

DIRECT CAUSE *(Continuation)*

13b.

INDIRECT CAUSES *(Continuation)*

14.

ACTION(S) TAKEN, ANTICIPATED, OR RECOMMENDED TO ELIMINATE CAUSE(S) *(Continuation)*

Also, the electrical conduit was made more visible by using high visibility orange paint and an orange safety fence was put up on both sides of the conduit.

(For Safety Staff only)	REPORT NO.	EROC CODE	UNITED STATES ARMY CORPS OF ENGINEERS ACCIDENT INVESTIGATION REPORT (For Use of this Form See Help Menu and USACE Suppl to AR 385-40)		REQUIREMENT CONTROL SYMBOL: CEEC-S-8(R2)
1. ACCIDENT CLASSIFICATION					
PERSONNEL CLASSIFICATION		INJURY/ILLNESS/FATAL		PROPERTY DAMAGE	MOTOR VEHICLE INVOLVED
GOVERNMENT <input type="checkbox"/> CIVILIAN <input type="checkbox"/> MILITARY <input checked="" type="checkbox"/> CONTRACTOR <input type="checkbox"/> PUBLIC		<input type="checkbox"/> <input type="checkbox"/> FATAL <input type="checkbox"/> OTHER		<input type="checkbox"/> FIRE INVOLVED <input type="checkbox"/> OTHER <input type="checkbox"/> FIRE INVOLVED <input type="checkbox"/> OTHER	<input type="checkbox"/> <input checked="" type="checkbox"/>
2. PERSONAL DATA					
a. Name (Last, First, MI) LaGrec, Vincent		b. AGE 30	c. SEX <input checked="" type="checkbox"/> MALE <input type="checkbox"/> FEMALE	d. SOCIAL SECURITY NUMBER	
				e. GRADE NA	
f. JOB SERIES/TITLE Operator		g. DUTY STATUS AT TIME OF ACCIDENT <input checked="" type="checkbox"/> ON DUTY <input type="checkbox"/> TDY <input type="checkbox"/> OFF DUTY		h. EMPLOYMENT STATUS AT TIME OF ACCIDENT <input type="checkbox"/> ARMY ACTIVE <input type="checkbox"/> ARMY RESERVE <input type="checkbox"/> VOLUNTEER <input type="checkbox"/> PERMANENT <input type="checkbox"/> FOREIGN NATIONAL <input type="checkbox"/> SEASONAL <input type="checkbox"/> TEMPORARY <input type="checkbox"/> STUDENT <input type="checkbox"/> OTHER (Specify)	
3. GENERAL INFORMATION					
a. DATE OF ACCIDENT (month/day/year) 06/16/2006		b. TIME OF ACCIDENT (Military time) 1000 hrs		c. EXACT LOCATION OF ACCIDENT Federal Creosote Superfund Site, Manville, NJ	
d. CONTRACTOR'S NAME (1) PRIME: Sevenson Environmental Services, Inc		e. CONTRACT NUMBER W912DQ-04-D-0023, T.O. #0001		f. TYPE OF CONTRACT <input checked="" type="checkbox"/> CONSTRUCTION <input type="checkbox"/> SERVICE <input type="checkbox"/> A/E <input type="checkbox"/> DREDGE <input type="checkbox"/> OTHER (Specify)	
<input type="checkbox"/> CIVIL WORKS <input type="checkbox"/> MILITARY <input checked="" type="checkbox"/> OTHER (Specify) Superfund		g. HAZARDOUS/TOXIC WASTE ACTIVITY <input checked="" type="checkbox"/> SUPERFUND <input type="checkbox"/> DERP <input type="checkbox"/> IRP <input type="checkbox"/> OTHER (Specify)			
4. CONSTRUCTION ACTIVITIES ONLY (Fill in line and corresponding code number in box from list - see help menu)					
a. CONSTRUCTION ACTIVITY Grading (Earthwork)			(CODE) # 4	b. TYPE OF CONSTRUCTION EQUIPMENT Compactor/vibratory roller	
				(CODE) # 23	
5. INJURY/ILLNESS INFORMATION (Include name on line and corresponding code number in box for items e, f & g - see help menu)					
a. SEVERITY OF ILLNESS/INJURY No Injury			(CODE) # NOI	b. ESTIMATED DAYS LOST 0	c. ESTIMATED DAYS HOSPITALIZED 0
d. ESTIMATED DAYS RESTRICTED DUTY 0					
e. BODY PART AFFECTED PRIMARY NA			(CODE) # NA	g. TYPE AND SOURCE OF INJURY/ILLNESS	
SECONDARY NA			(CODE) # NA	TYPE NA	
f. NATURE OF ILLNESS/INJURY NA			(CODE) # NA	SOURCE NA	
6. PUBLIC FATALITY (Fill in line and correspondence code number in box - see help menu)					
a. ACTIVITY AT TIME OF ACCIDENT NA			(CODE) # NA	b. PERSONAL FLOATATION DEVICE USED? <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A	
7. MOTOR VEHICLE ACCIDENT					
a. TYPE OF VEHICLE <input type="checkbox"/> PICKUP/VAN <input type="checkbox"/> AUTOMOBILE <input type="checkbox"/> TRUCK <input checked="" type="checkbox"/> OTHER (Specify) Compactor/vibratory drum roller		b. TYPE OF COLLISION <input type="checkbox"/> SIDE SWIPE <input type="checkbox"/> HEAD ON <input type="checkbox"/> REAR END <input type="checkbox"/> BROADSIDE <input checked="" type="checkbox"/> ROLL OVER <input type="checkbox"/> BACKING <input type="checkbox"/> OTHER (Specify)		c. SEAT BELTS (1) FRONT SEAT <input checked="" type="checkbox"/> USED <input type="checkbox"/> NOT USED <input type="checkbox"/> NOT AVAILABLE (2) REAR SEAT <input type="checkbox"/> USED <input type="checkbox"/> NOT USED <input type="checkbox"/> NOT AVAILABLE	
8. PROPERTY/MATERIAL INVOLVED					
a. NAME OF ITEM (1) Compactor/Vibratory Roller		b. OWNERSHIP Contractor: Private		c. \$ AMOUNT OF DAMAGE \$0.00	
(2)					
(3)					
9. VESSEL/FLOATING PLANT ACCIDENT (Fill in line and correspondence code number in box from list - see help menu)					
a. TYPE OF VESSEL/FLOATING PLANT NA			(CODE) # NA	b. TYPE OF COLLISION/MISHAP NA	
				(CODE) # NA	
10. ACCIDENT DESCRIPTION (Use additional paper, if necessary)					
<p>The operator was operating an Ingersol Rand vibratory drum roller to compact lifts of common fill when the slope gave way under the roller. (See additional sheet)</p>					

11. CAUSAL FACTOR(S) (Read Instruction Before Completing)			
a. (Explain YES answers in item 13) DESIGN: Was design of facility, workplace or equipment a factor? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO INSPECTION/MAINTENANCE: Were inspection & maintenance procedures a factor? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO PERSON'S PHYSICAL CONDITION: In your opinion, was the physical condition of the person a factor? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO OPERATING PROCEDURES: Were operating procedures a factor? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO JOB PRACTICES: Were any job safety/health practices not followed when the accident occurred? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO HUMAN FACTORS: Did any human factors such as, size or strength of person, etc., contribute to accident? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO ENVIRONMENTAL FACTORS: Did heat, cold, dust, sun, glare, etc., contribute to the accident? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	a. (CONTINUED) CHEMICAL AND PHYSICAL AGENT FACTORS: Did exposure to chemical agents, such as dust, fumes, mists, vapors or physical agents, such as, noise, radiation, etc., contribute to accident? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO OFFICE FACTORS: Did office setting such as, lifting office furniture, carrying, stooping, etc., contribute to the accident? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO SUPPORT FACTORS: Were inappropriate tools/resources provided to properly perform the activity/task? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO PERSONAL PROTECTIVE EQUIPMENT: Did the improper selection, use or maintenance of personal protective equipment contribute to the accident? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO DRUGS/ALCOHOL: In your opinion, was drugs or alcohol a factor to the accident? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
b. WAS A WRITTEN JOB/ACTIVITY HAZARD ANALYSIS COMPLETED FOR TASK BEING PERFORMED AT TIME OF ACCIDENT? <input checked="" type="checkbox"/> YES (If yes, attach a copy.) <input type="checkbox"/> NO			
12. TRAINING			
a. WAS PERSON TRAINED TO PERFORM ACTIVITY/TASK? <input type="checkbox"/> YES <input type="checkbox"/> NO	b. TYPE OF TRAINING. <input type="checkbox"/> CLASSROOM <input checked="" type="checkbox"/> ON JOB	c. DATE OF MOST RECENT FORMAL TRAINING. 06/16/2006 (Month) (Day) (Year)	
13. FULLY EXPLAIN WHAT ALLOWED OR CAUSED THE ACCIDENT; INCLUDE DIRECT AND INDIRECT CAUSES (See instruction for definition of direct and indirect causes.) (Use additional paper, if necessary)			
a. DIRECT CAUSE Operating equipment close to the edge of, and in a parallel position to, the slope of the fill material.			
b. INDIRECT CAUSE(S)			
14. ACTION(S) TAKEN, ANTICIPATED OR RECOMMENDED TO ELIMINATE CAUSE(S).			
DESCRIBE FULLY: A Safety Stand Down Meeting was held to address "Lessons Learned" issues concerning the safe operation of equipment and to re-emphasize the Safe Plan of Action. (See additional sheet)			
15. DATES FOR ACTIONS IDENTIFIED IN BLOCK 14.			
a. BEGINNING (Month/Day/Year) 06/16/2006	b. ANTICIPATED COMPLETION (Month/Day/Year) 06/16/2006		
c. SIGNATURE AND TITLE OF SUPERVISOR COMPLETING REPORT CORPS _____ CONTRACTOR _____	d. DATE (Mo/Da/Yr) 06/19/2006	e. ORGANIZATION IDENTIFIER (Div, Br, Sect)	f. OFFICE SYMBOL
16. MANAGEMENT REVIEW (1st)			
a. <input type="checkbox"/> CONCUR b. <input type="checkbox"/> NON CONCUR c. COMMENTS			
SIGNATURE	TITLE	DATE	
17. MANAGEMENT REVIEW (2nd - Chief Operations, Construction, Engineering, etc.)			
a. <input type="checkbox"/> CONCUR b. <input type="checkbox"/> NON CONCUR c. COMMENTS			
SIGNATURE	TITLE	DATE	
18. SAFETY AND OCCUPATIONAL HEALTH OFFICE REVIEW			
a. <input type="checkbox"/> CONCUR b. <input type="checkbox"/> NON CONCUR c. ADDITIONAL ACTIONS/COMMENTS			
SIGNATURE	TITLE	DATE	
19. COMMAND APPROVAL			
COMMENTS			
COMMANDER SIGNATURE			DATE

10.

ACCIDENT DESCRIPTION *(Continuation)*

The roller slid sideways down the slope approximately seven feet at which time the roller tipped over on its side. The operator was immediately assisted by two co-workers who helped him from the roller. He was taken to a local medical center for observation but was released without injury. The roller was righted using cables and a backhoe. The instrument panel cover was bent during the upset but can be re-attached.

13a.

DIRECT CAUSE *(Continuation)*

13b.

INDIRECT CAUSES (Continuation)

14.

ACTION(S) TAKEN, ANTICIPATED, OR RECOMMENDED TO ELIMINATE CAUSE(S) (Continuation)

It should also be noted that there was a safety meeting held on 6/14/06 addressing Excavation and Trenching Hazards. Specifically, the safe operation of roller and dozer near the edges of excavations and trenches and what to do during an upset situation. In addition, the Safe Plan of Action for June 14 through June 16, address the subject of safe operating procedures for the roller. The attendance sheet and the Safe Plan of Action forms for June 14 and 16, 2006 are attached.

Safe Plan Of Action

Project No. G222

Job/Task Federal Creosote

Work Area Lagoon-A, E. Camplain Rd., Prop Rustic Mall.

Date 06/16/06

Steps of Task	Hazard/Reaction to Change	Safe Plan	Resources
Continue excavation within SW Area.	Excavation and trenching, heavy equipment, crushed by hazards, access and egress, handling contaminated material, loading operations, traffic control.	Maintain sidewall stability using sloping and benching methods, review safe operating procedures near excavations and trenches, stand clear of loading operations, observe swing radius clearance, observe proper PPE requirements, maintain proper access and egress, maintain exclusion log record, avoid contact with creosote material, monitoring for VOC levels within exclusion zone, use of traffic control equipment.	Heavy equipment, dump trucks, PPE, ladders, MultiRAE, barriers, traffic cones, flagmen.
Dumping truckloads of material into Lagoon-A stockpiles.	Dumping operations, crushed by hazards, potential to come in contact with contaminated material.	Stand clear of loading operations, observe swing radius clearance, observe proper PPE requirements, maintain proper access and egress, maintain exclusion log record, avoid contact with creosote material, monitoring for VOC levels within exclusion zone	Heavy equipment, dump trucks, PPE, MultiRAE.
Continue load out of contaminated material from stockpiles for transport to disposal facility.	Loading operations, crushed by hazards, heavy equipment, access and egress, handling contaminated material, loading operations, secure tarpaulins in place and traffic control.	Maintain stockpile stability during loading operations, stand clear of loading operations, observe swing radius clearance, observe proper PPE requirements, maintain proper access and egress, gain control of potential traffic issues during staging of trucks to be loaded, maintain exclusion log record, avoid contact with creosote material, inspect scaffolding prior to securing tarps at scale, monitoring for VOC levels within exclusion zone.	Heavy equipment, off site transport vehicles, scaffolding, traffic control methods, vests, flags, PPE, air monitoring instruments.

Continue placement of common fill within SW area.	Dumping operations, traffic, uneven terrain, dozer and roller operations.	Stand clear of dumping operations, use of flagmen men to control traffic, watch where you step, pay attention to backup alarms, make eye contact with operator prior to approaching heavy equipment during operation, review safe operating procedures for dozer and roller near excavations and trenches.	Dump trucks, traffic vests, flags, heavy equipment.

Project No. G222

Job/Task Federal Creosote

Work Area Lagoon A, East Camplain Road and Rustic Mall

Date: 06/16/06

Team Members' Signatures

PRINT NAME

SIGN NAME

PRINT NAME

SIGN NAME

[illegible]

The signature of the supervisor confirms the completion of the hazard assessment and Safe Plan of Action by the crew.

Supervisors Signature: _____ Date _____

Instructions: 1. Write name of job or task in space provided. 2. Conduct walk-through survey of work area. 3. Write the steps of the task in a safe sequence. 4. List all possible hazards involved in each step and reaction to change. 5. In the Safe Plan column, state actions that will be taken to prevent the hazards or injury from reaction to change. 6. In Resources column, list equipment, tools, etc. needed to do the job. 8. Ask each team member, who helped develop and will use this SPA, to sign in spaces provided. 9. Review the SPA at the end of the task for improvements.

Work shall stop when conditions change, the job changes, or a deficiency in the plan is discovered, and the current SPA will be modified or a new SPA created.

Review checklist while completing front page of SPA. Check all that apply.

A new SPA is required if the job scope or work conditions change.

Required Permits		Hazards		Safe Plan	
<input type="checkbox"/> Confined Spaces	<input type="checkbox"/> Overhead Utilities	<input type="checkbox"/> Power de-energization required <input type="checkbox"/> Insulation blankets required <input type="checkbox"/> Wire watcher required	<input type="checkbox"/> Crane or other	<input type="checkbox"/> Signalman assigned <input type="checkbox"/> Tag lines in use <input type="checkbox"/> Area around crane barricaded	<input type="checkbox"/> Required clearance distance = 10 Ft. <input type="checkbox"/> Safe work zone marked
<input type="checkbox"/> Critical Lift	<input type="checkbox"/> Lifting Equipment	<input type="checkbox"/> Underground Utilities	<input type="checkbox"/> Lifting Equipment	<input type="checkbox"/> Personnel protected from overhead load	<input type="checkbox"/> Required as-built <input type="checkbox"/> Subsurface survey <input type="checkbox"/> Received dig permit
<input type="checkbox"/> Hard Hat, Class C	<input type="checkbox"/> Required PPE	<input type="checkbox"/> Electrical	<input type="checkbox"/> Lock Out/Tag Out/try Out <input type="checkbox"/> Permit required? <input type="checkbox"/> Confirm that equipment is de-energized	<input type="checkbox"/> Reviewed electrical safety procedures	<input type="checkbox"/> Required clearance distance = _____ Ft. <input type="checkbox"/> Safe work zone marked
<input type="checkbox"/> Hard Hat, Class E (Elect. Protect)		<input type="checkbox"/> Excavations	<input type="checkbox"/> Permits <input type="checkbox"/> Inspected prior to entering <input type="checkbox"/> Proper sloping/shoring	<input type="checkbox"/> Reviewed electrical safety procedures	
<input type="checkbox"/> Ear Plugs/Ear Muffs		<input type="checkbox"/> Fire Hazard	<input type="checkbox"/> Barricades provided <input type="checkbox"/> Access/egress provided <input type="checkbox"/> Protection from accumulated water	<input type="checkbox"/> Hot Work Permit <input type="checkbox"/> Fire Extinguishers <input type="checkbox"/> Fire watch	
<input type="checkbox"/> Safety Glasses			<input type="checkbox"/> Adjacent area protected <input type="checkbox"/> Unnecessary flammable material removed	<input type="checkbox"/> Traffic Barricades <input type="checkbox"/> Signs <input type="checkbox"/> Cones <input type="checkbox"/> Flagmen <input type="checkbox"/> Lane closure	
<input type="checkbox"/> Face Shield			<input type="checkbox"/> Heavy Equipment	<input type="checkbox"/> Communication with equipment operator	
<input type="checkbox"/> Chemical Goggles			<input type="checkbox"/> Noise >85 dB	<input type="checkbox"/> Hearing protection is required: <input type="checkbox"/> Ear plugs <input type="checkbox"/> Ear Muffs <input type="checkbox"/> Both	
<input type="checkbox"/> Welding Hood			<input type="checkbox"/> Hand & Power Tools:	<input type="checkbox"/> Inspected general cond. <input type="checkbox"/> GFCI in use <input type="checkbox"/> Identified PPE required for each tool	
<input type="checkbox"/> Cut Resistant Gloves			<input type="checkbox"/> Hand Hazards	<input type="checkbox"/> Reviewed safety requirements in operators manual(s) <input type="checkbox"/> Guarding OK	
<input type="checkbox"/> Welders Gloves				<input type="checkbox"/> List sharp tools, material, equipment: Utility knives, slings, chokers, straps.	
<input type="checkbox"/> Nitrile Gloves			<input type="checkbox"/> Manual Lifting	<input type="checkbox"/> PPE gloves, etc. <input type="checkbox"/> Protected sharp edges as necessary	
<input type="checkbox"/> Surgical Gloves				<input type="checkbox"/> Reviewed proper lifting tech. <input type="checkbox"/> Identified material requiring lifting equipment	
<input type="checkbox"/> Elec. Insulated Gloves			<input type="checkbox"/> Ladders	<input type="checkbox"/> Hand protection required <input type="checkbox"/> Back support belts	
<input type="checkbox"/> Arm Sleeves				<input type="checkbox"/> Inspected general cond. before use <input type="checkbox"/> Ladder inspected with in last quarter	
<input type="checkbox"/> Foot Protection:			<input type="checkbox"/> Scaffolds	<input type="checkbox"/> Ladder tied off or held <input type="checkbox"/> Proper angle and placement <input type="checkbox"/> Reviewed ladder safety	
<input type="checkbox"/> Sturdy Work Boots				<input type="checkbox"/> Inspected general condition before use <input type="checkbox"/> Tags in place <input type="checkbox"/> Properly secured	
<input type="checkbox"/> Safety Toe Boots			<input type="checkbox"/> Slips, Trips Falls	<input type="checkbox"/> Toe boards used <input type="checkbox"/> Footings adequate <input type="checkbox"/> Materials properly stored on scaffold	
<input type="checkbox"/> Rubber Boots				<input type="checkbox"/> Extension cords properly secured <input type="checkbox"/> Hazards marked <input type="checkbox"/> Tools & material properly stored	
<input type="checkbox"/> Rubber Boot Covers			<input type="checkbox"/> Pinch Points	<input type="checkbox"/> List potential pinch points: jacking, hoisting equipment, swing radius of machines, operating equipment within reach box.	
<input type="checkbox"/> Diabetic Footwear			<input type="checkbox"/> Working w/ Chemicals	<input type="checkbox"/> Working near operating equipment <input type="checkbox"/> Hand/body positioning	
<input type="checkbox"/> Dust Mask				<input type="checkbox"/> List specific chemicals involved and list hazards and precaution on front side.	
<input type="checkbox"/> Air Purifying Respirator				<input type="checkbox"/> Reviewed MSDS <input type="checkbox"/> Exposure monitoring required <input type="checkbox"/> Have proper containers and labels.	
<input type="checkbox"/> Supplied Air Respirator				<input type="checkbox"/> Areas to be worked may contain asbestos or lead paint <input type="checkbox"/> Asbestos controls incorporated	
<input type="checkbox"/> SCBA				<input type="checkbox"/> Potential	
<input type="checkbox"/> Emergency Escape Respirator				<input type="checkbox"/> Asbestos or Lead Paint	
<input type="checkbox"/> Special Clothing:				<input type="checkbox"/> Heat Stress Potential	
<input type="checkbox"/> Tyvek @					
<input type="checkbox"/> Poly Coated Tyvek @				<input type="checkbox"/> Cold Stress Potential	
<input type="checkbox"/> Fire Resistant Coveralls					
<input type="checkbox"/> Rain Suit				<input type="checkbox"/> Environmental	
<input type="checkbox"/> Safety Vest					
<input type="checkbox"/> Fall Protection:				<input type="checkbox"/> Natural or Site Hazards	
<input type="checkbox"/> Harness					
<input type="checkbox"/> Double Lanyard Required				<input type="checkbox"/> Adjacent Work/Processes	
<input type="checkbox"/> Anchorage Point Available					
<input type="checkbox"/> Additional Anchorage Connector				<input type="checkbox"/> Barricades/covers	
<input type="checkbox"/> Needed e.g. Cross Arm Strap, etc.					
<input type="checkbox"/> Retractable Device Needed				<input type="checkbox"/> Covers over opening <input type="checkbox"/> Warning signs required	
<input type="checkbox"/> Horizontal Life Line System Req'd.				<input type="checkbox"/> Caution barricade tape required <input type="checkbox"/> Danger barricade tape required <input type="checkbox"/> Rigid railing required	
<input type="checkbox"/> Fall Clearance Distance Adequate				<input type="checkbox"/> Notified them of our presents <input type="checkbox"/> Other workers adjacent, above, or below.	
<input type="checkbox"/> Fall Rescue/Retrieval Plan Set Up				<input type="checkbox"/> Coordinated with adjacent supervisor/customer/operator <input type="checkbox"/> Need barriers between.	
				<input type="checkbox"/> Animal/repiles/insects hazards	
				<input type="checkbox"/> Weather <input type="checkbox"/> Terrain <input type="checkbox"/> Adjacent operations or processes <input type="checkbox"/> Biological hazards	
				<input type="checkbox"/> Pollution prevention <input type="checkbox"/> Waste minimization	
				<input type="checkbox"/> Air emissions <input type="checkbox"/> Water discharge <input type="checkbox"/> Hazardous wastes <input type="checkbox"/> Other wastes	
				<input type="checkbox"/> Reviewed Cold Stress symptoms <input type="checkbox"/> Warm up periods	
				<input type="checkbox"/> Proper clothing (i.e., gloves, coat, coveralls) <input type="checkbox"/> Wind chill <32°	
				<input type="checkbox"/> Sun Screen <input type="checkbox"/> Reviewed Heat Stress symptoms	
				<input type="checkbox"/> Heat stress monitoring (>85°) <input type="checkbox"/> Liquids available <input type="checkbox"/> Cool down periods	
				<input type="checkbox"/> Lead based paint controls in place <input type="checkbox"/> Exposure monitoring conducted.	
				<input type="checkbox"/> Identified proper PPE (respirators, clothing, gloves, etc.)	
				<input type="checkbox"/> List specific chemicals involved and list hazards and precaution on front side.	
				<input type="checkbox"/> Reviewed MSDS <input type="checkbox"/> Exposure monitoring required <input type="checkbox"/> Have proper containers and labels.	
				<input type="checkbox"/> Areas to be worked may contain asbestos or lead paint <input type="checkbox"/> Asbestos controls incorporated	
				<input type="checkbox"/> Potential	
				<input type="checkbox"/> Asbestos or Lead Paint	
				<input type="checkbox"/> Heat Stress Potential	
				<input type="checkbox"/> Cold Stress Potential	
				<input type="checkbox"/> Environmental	
				<input type="checkbox"/> Natural or Site Hazards	
				<input type="checkbox"/> Adjacent Work/Processes	
				<input type="checkbox"/> Barricades/covers	
				<input type="checkbox"/> Covers over opening <input type="checkbox"/> Warning signs required	
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				<input type="checkbox"/> Lead based paint controls in place <input type="checkbox"/> Exposure monitoring conducted.	
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				<input type="checkbox"/> Reviewed MSDS <input type="checkbox"/> Exposure monitoring required <input type="checkbox"/> Have proper containers and labels.	
				<input type="checkbox"/> Areas to be worked may contain asbestos or lead paint <input type="checkbox"/> Asbestos controls incorporated	
				<input type="checkbox"/> Potential	
				<input type="checkbox"/> Asbestos or Lead Paint	
				<input type="checkbox"/> Heat Stress Potential	
				<input type="checkbox"/> Cold Stress Potential	
				<input type="checkbox"/> Environmental	
				<input type="checkbox"/> Natural or Site Hazards	
				<input type="checkbox"/> Adjacent Work/Processes	
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				<input type="checkbox"/> Coordinated with adjacent supervisor/customer/operator <input type="checkbox"/> Need barriers between.	
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				<input type="checkbox"/> Areas to be worked may contain asbestos or lead paint <input type="checkbox"/> Asbestos controls incorporated	
				<input type="checkbox"/> Potential	
				<input type="checkbox"/> Asbestos or Lead Paint	
				<input type="checkbox"/> Heat Stress Potential	
				<input type="checkbox"/> Cold Stress Potential	
				<input type="checkbox"/> Environmental	
				<input type="checkbox"/> Natural or Site Hazards	
				<input type="checkbox"/> Adjacent Work/Processes	
				<input type="checkbox"/> Barricades/covers	
				<input type="checkbox"/> Covers over opening <input type="checkbox"/> Warning signs required	
				<input type="checkbox"/> Coordinated with adjacent supervisor/customer/operator <input type="checkbox"/> Need barriers between.	
				<input type="checkbox"/> Notified them of our presents <input type="checkbox"/> Other workers adjacent, above, or below.	
				<input type="checkbox"/> Animal/repiles/insects hazards	
				<input type="checkbox"/> Weather <input type="checkbox"/> Terrain <input type="checkbox"/> Adjacent operations or processes <input type="checkbox"/> Biological hazards	
				<input type="checkbox"/> Pollution prevention <input type="checkbox"/> Waste minimization	
				<input type="checkbox"/> Air emissions <input type="checkbox"/> Water discharge <input type="checkbox"/> Hazardous wastes <input type="checkbox"/> Other wastes	
				<input type="checkbox"/> Reviewed Cold Stress symptoms <input type="checkbox"/> Warm up periods	
				<input type="checkbox"/> Proper clothing (i.e., gloves, coat, coveralls) <input type="checkbox"/> Wind chill <32°	
				<input type="checkbox"/> Sun Screen <input type="checkbox"/> Reviewed Heat Stress symptoms	
				<input type="checkbox"/> Heat stress monitoring (>85°) <input type="checkbox"/> Liquids available <input type="checkbox"/> Cool down periods	
				<input type="checkbox"/> Lead based paint controls in place <input type="checkbox"/> Exposure monitoring conducted.	
				<input type="checkbox"/> Identified proper PPE (respirators, clothing, gloves, etc.)	
				<input type="checkbox"/> List specific chemicals involved and list hazards and precaution on front side.	
				<input type="checkbox"/> Reviewed MSDS <input type="checkbox"/> Exposure monitoring required <input type="checkbox"/> Have proper containers and labels.	
				<input type="checkbox"/> Areas to be worked may contain asbestos or lead paint <input type="checkbox"/> Asbestos controls incorporated	
				<input type="checkbox"/> Potential	
				<input type="checkbox"/> Asbestos or Lead Paint	
				<input type="checkbox"/> Heat Stress Potential	
				<input type="checkbox"/> Cold Stress Potential	
				<input type="checkbox"/> Environmental	
				<input type="checkbox"/> Natural or Site Hazards	
				<input type="checkbox"/> Adjacent Work/Processes	
				<input type="checkbox"/> Barricades/covers	
				<input type="checkbox"/> Covers over opening <input type="checkbox"/> Warning signs required	
				<input type="checkbox"/> Coordinated with adjacent supervisor/customer/operator <input type="checkbox"/> Need barriers between.	
				<input type="checkbox"/> Notified them of our presents <input type="checkbox"/> Other workers adjacent, above, or below.	
				<input type="checkbox"/> Animal/repiles/insects hazards	
				<input type="checkbox"/> Weather <input type="checkbox"/> Terrain <input type="checkbox"/> Adjacent operations or processes <input type="checkbox"/> Biological hazards	
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OU3- Rustic Mall- WO-08**CONTRACT NO. W912DQ-04-D-0023 TO #0001****PRE-FINAL INSPECTION PUNCHLIST**

Item #	Task	Contract Specification Section/Estimated Completion Date	SES P.O. Approval Initial/Date	USACE Final Approval Initial/Date
1	Remove all litter (filter fabric) from Rustic Mall Area.	2/21/08	MB 2/21/08	MT 2/27/08
2	Perform grading/leveling of stone where SES/USACE Office Trailers used to be.	02201-Backfill & Compaction 2/21/08	MB 2/21/08	MT 2/27/08
3	Complete demobilizing activities	01500-Temporary Facilities 7/1/08		
4	Disconnect Electric Service	01500- Temporary Facilities 7/1/08		
5	Disconnect Sanitary Sewer Service	02531- Sanitary Sewer 7/1/08		
6	Disconnect Water Service	02510-Water Distribution Line 7/1/08		
7	Remove WWTP Discharge Line from Ground	10100-WWTP 7/1/08		
8	Final Closure Documents	01780-Project Closeout 3/24/08		
9	Final Restoration As-builts and Cross-Sections	01550-Surveying 3/24/08		
10	Revised Temporary Facilities Layout	01500-Temporary Facilities 2/29/08	JC 2/29/08	NK 3/7/08
11	Lower Grate on Storm Inlet directly behind 54 Valerie Dr. on Rustic Mall property	02630-Storm Drainage April '08	JC 4/3/08	
12	Extend Temporary Asphalt Curb adjacent to 54 Valerie Dr. to end of grass in median (approx. 4')	02770-Conc. Curb/Gutter & S/W April '08	JC 4/4/08	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: March 19, 2008

SUBJECT: Federal Creosote Operable Unit 3 Final Inspection

FROM: Rich Puvogel
Central New Jersey Remediation Section

TO: Site File

This memo documents the final inspection of Operable Unit 3 at the Federal Creosote Superfund Site. The inspection was conducted by EPA and the New Jersey Department of Environmental Protection. In attendance at the inspection were Rich Puvogel, the United States Environmental Protection Agency's remedial project manager, Mandeep Talwar, of the United States Army Corps of Engineers, Joel Czachorowski, of Severson Environmental Services, Inc., and Drew Sites of the New Jersey Department of Environmental Protection.

The inspection of OU3 was conducted on the morning of March 19, 2008. During the final inspection Mr. Sites, Mr. Talwar, Mr. Puvogel, and Mr. Czachorowski walked through the the remediated areas of OU3 (the Rustic Mall property).

Although minor punch list items were identified during the inspection relating to the elevation of a storm sewer grate and demobilization of the last trailer remaining on site, no outstanding issues concerning the remediation were raised during the inspection and the remediation of the Rustic Mall was considered complete.